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Psychological Monographs: General and Applied

Attitudes of Young Children Toward Their Peers as Related to Certain Characteristics of Their Siblings[1, 2]

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I. PROBLEM, SUBJECTS, AND PROCEDURE

This study is a part of a more extensive one concerned with the relation between some of the social attitudes of the five- and six-year-old in two-child families and the variables of sex, ordinal position, and age-difference of the child's sibling. Sex differences were also investigated. The relations between the sex and sibling variables just mentioned and the following dependent variables were explored: friendliness to children, gregariousness, leadership, popularity, kindness, quarrelsomeness, revengefulness, cruelty, tendency to tease, uncooperativeness with peers, jealousy, competitiveness, sportmanship, selfishness, insistence on rights, and exhibitionism.

The subjects of the study were 384 white, "normal," five- and six-year-olds from native-born, intact, urban, two-child families. No adopted or stepchildren were included in the population. There were 48 children in each of the following groups: males with an older brother, males with a younger brother, males with an older sister, males with a younger sister, females with an older brother, females with a younger brother, females with an older sister and females with a younger sister. Each of these groups of 48 was divided further into three subgroups of 16 in which the age difference between the sibs was, respectively, less than two years, two to four years, and four to six years. The arrangement includes, then, three spacings, two ordinal positions, child subjects of two sexes and their siblings of two sexes (see Table 1). When the sib is younger, the age-difference variable includes not only a maturity difference but a length-of-contact variable.

The children were mostly public school children, only one private school system contributing subjects. Each of the subgroups of 16 was matched with every other, individual by individual, with respect to age of child (Table 2) as well as socioeconomic level of the

[1] The investigation was supported, in part, by a grant from the National Institute of Mental Health, of the National Institutes of Health, Public Health Service, and in part, by the Sonia Shankman Orthogenic School Research Fund, University of Chicago.

[2] The author wishes to acknowledge the help received from, and to express her gratitude to, the teachers and principals of the following schools in Chicago which participated in the study: Bennett School, Bradwell School, Field School, Holmes School, Gunsalus School, Luella School, Perry School, Schmid School, Sullivan School, Wentworth School, University of Chicago Laboratory Schools and the University of Chicago Nursery School. The author is also much indebted to Dr. Grace Munson and Dr. Thelma Thurstone, both formerly Directors of the Bureau of Child Study, Chicago Public Schools. Dr. Helen Heath did most of the statistical work for the study. We acknowledge with gratitude her discriminating and loyal service.

TABLE 1

NUMBER OF SUBJECTS IN VARIOUS GROUPS

Description of Group			Age Difference Between Siblings in Months			Total
Subject		Sibling				
Sex	Ordinal Position	Sex	7–24	25–48	49–72	
M	2	M	16	16	16	48
M	2	F	16	16	16	48
F	2	M	16	16	16	48
F	2	F	16	16	16	48
M	1	M	16	16	16	48
M	1	F	16	16	16	48
F	1	M	16	16	16	48
F	1	F	16	16	16	48
M	2	M or F	32	32	32	96
F	2	M or F	32	32	32	96
M	1	M or F	32	32	32	96
F	1	M or F	32	32	32	96
M or F	2	M	32	32	32	96
M or F	2	F	32	32	32	96
M or F	1	M	32	32	32	96
M or F	1	F	32	32	32	96
M	1 or 2	M	32	32	32	96
M	1 or 2	F	32	32	32	96
F	1 or 2	M	32	32	32	96
F	1 or 2	F	32	32	32	96
M	1 or 2	M or F	64	64	64	192
F	1 or 2	M or F	64	64	64	192
M or F	1 or 2	M	64	64	64	192
M or F	1 or 2	F	64	64	64	192
M or F	1	M or F	64	64	64	192
M or F	2	M or F	64	64	64	192
M or F	1 or 2	M or F	128	128	128	384

occupation of the subject's father (Table 3) and of the neighborhood of residence of the family (Table 4). Occupation classification was based on the Minnesota Scale (8); and the neighborhood classification, on the Chicago Community Inventory (13).

Matching could not, of course, be exact. Ninety-eight per cent of the age matchings were within six months; 93 per cent of the occupation matchings, within one level; and 88 per cent of the neighborhood, within one scale rank. Level 4 on the occupation scale was omitted because this is the farming group, a class not represented in the population we studied. Tables 2 to 4 show the composition of our various basic subgroups of 16; and Table 1, the total number of cases in each of the various subgroups or subgroup combinations.

The measures of the traits studied were teachers' ratings. About half of the rating scales used were Fels Research Institute Child Behavior Scales (14); while the others were taken from the California Behavior Inventory for Nurs-

ery School Children (4) but were handled as graphic scales, as the Fels Scales are normally. To designate the traits measured with the help of the Fels Scale we have placed a star after the captions in the table of means (Tables 5 to 13). The unstarred scales, then, are from the California Inventory. Since the teachers saw the children only at school and with their classmates, the ratings describe chiefly the attitudes our subjects showed toward their peers at school.

The method of indicating an assessment on the line scales was merely a check mark at the appropriate point, the descriptions of various degrees of the trait serving merely as landmarks and not being evenly spaced. The checkings on the line scale were then converted with the use of a grid into ratings on a nine-point scale. These ratings, in turn, were normalized on the basis of a population of about 500 five- and six-year-olds of which our 384 subjects were a major part. Four was taken as the mean score. The ratings for the 24 sub-

TABLE 2

MEANS AND SIGMAS OF THE AGES OF SUBJECTS AND SIBLINGS IN THE TWENTY-FOUR BASIC GROUPS

Description of Group			Age in Months					
Subject		Sibling	Subject		Sibling		Sibling Age Difference	
Sex	Ordinal Position	Sex	Mean	Sigma	Mean	Sigma	Mean	Sigma
I. Sibling Age Difference 7–24 Months								
M	2	M	71.4	6.1	89.6	6.8	18.2	3.6
M	2	F	69.3	6.2	87.8	7.6	18.4	3.3
F	2	M	70.4	7.7	89.3	7.5	18.9	4.1
F	2	F	71.3	5.2	90.6	6.3	19.3	4.1
M	1	M	68.4	6.1	50.1	6.0	18.3	3.4
M	1	F	71.4	7.4	53.3	9.1	18.1	4.2
F	1	M	70.4	6.3	52.7	7.1	17.8	4.2
F	1	F	70.9	5.7	51.4	6.9	19.5	3.6
II. Sibling Age Difference 25–48 Months								
M	2	M	70.9	6.1	105.6	6.8	34.8	6.7
M	2	F	71.8	6.3	108.9	8.8	37.1	6.4
F	2	M	72.2	6.5	107.7	10.0	35.4	5.8
F	2	F	72.8	5.4	107.9	8.4	35.1	6.3
M	1	M	71.1	6.6	35.0	8.3	36.1	6.6
M	1	F	70.9	6.0	32.3	8.8	38.6	6.9
F	1	M	71.8	7.2	37.9	11.6	33.9	7.1
F	1	F	72.4	5.6	37.6	6.3	34.9	6.0
III. Sibling Age Difference 49–72 Months								
M	2	M	68.9	6.2	129.6	8.9	60.7	7.8
M	2	F	73.1	7.0	131.8	10.8	58.6	6.0
F	2	M	71.9	4.3	125.7	7.5	53.8	5.0
F	2	F	67.6	5.1	123.7	6.6	56.1	5.1
M	1	M	72.8	6.7	18.2	6.9	54.5	5.8
M	1	F	72.3	7.5	16.8	6.6	55.6	5.4
F	1	M	70.6	5.5	14.8	7.2	55.8	4.5
F	1	F	73.4	5.7	17.1	6.9	56.2	5.8

TABLE 3

DISTRIBUTION OF SUBJECTS IN TWENTY-FOUR BASIC GROUPS IN TERMS OF FATHER'S OCCUPATION

Description of Group			Age Difference Between Siblings 7 to 24 Months						Age Difference Between Siblings 25 to 48 Months						Age Difference Between Siblings 49 to 72 Months					
Subject		Sibling	Class of Father's Occupation																	
Sex	Ordinal Position	Sex	I	II	III	V	VI	VII	I	II	III	V	VI	VII	I	II	III	V	VI	VII
			Number of Subjects																	
M	2	M	5	—	4	7	—	—	5	3	4	3	—	1	—	5	4	6	—	1
M	2	F	2	3	5	5	1	—	5	2	5	4	—	—	2	5	3	4	2	—
F	2	M	3	3	3	7	—	—	5	5	2	2	2	—	3	5	4	4	—	—
F	2	F	4	4	4	3	1	—	4	4	3	4	1	—	2	3	4	4	3	—
M	1	M	4	1	5	4	2	—	6	2	2	6	—	—	5	4	4	2	1	—
M	1	F	5	1	2	7	1	—	6	2	2	5	1	—	6	2	3	1	3	1
F	1	M	3	2	5	6	—	—	5	5	1	3	2	—	2	4	4	4	1	1
F	1	F	3	4	4	5	—	—	3	4	6	3	—	—	4	4	3	4	—	1

groups were checked by the Bartlett test (6, pp. 195-200) to determine whether it was reasonable to assume the groups were drawn from populations with a common variance.

The teachers, most of them very experienced, were coached in a conference or two on how to make the ratings. Since children from 12 schools were used, as many as 12 teachers in a school sometimes made the ratings, and those assessments by a given teacher were widely spread through the groups, it seems unlikely that differences in the standards of individual judges are responsible for any of our group differences. Since the

TABLE 4

DISTRIBUTION OF SUBJECTS IN THE TWENTY-FOUR BASIC GROUPS IN TERMS OF NEIGHBORHOOD OF RESIDENCE

Description of Group			Age Difference Between Siblings 7 to 24 Months					Age Difference Between Siblings 25 to 48 Months					Age Difference Between Siblings 49 to 72 Months				
Subject		Sibling	Socioeconomic Classification of Neighborhood of Residence														
Sex	Ordinal Position	Sex	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
			Number of Subjects														
M	2	M	8	3	3	1	1	6	5	2	3	—	11	3	1	—	1
M	2	F	8	3	—	3	2	10	1	4	—	1	9	2	1	4	—
F	2	M	8	5	2	1	—	11	—	2	2	1	11	3	1	1	—
F	2	F	11	3	—	2	—	8	2	2	4	—	7	4	2	2	1
M	1	M	9	1	1	3	2	9	1	5	1	—	10	1	3	1	1
M	1	F	9	4	3	—	—	8	1	5	2	—	8	1	5	2	—
F	1	M	8	1	3	2	2	10	4	2	—	—	12	1	1	2	—
F	1	F	6	6	1	2	1	8	2	5	1	—	14	—	—	1	1

schools did not contribute to the groups in the same proportion, a school standard variable may have colored our results to some extent. The matching of the groups in socioeconomic status, doubtless, kept the effect of such a variable to a minimum. Furthermore, most of the teachers had taught in a variety of schools; so their ideas of child behavior were not built up entirely on the basis of the child population in the schools at which they were teaching at the time they cooperated in our study. We have also counted on the relative specificness of the descriptions of the levels in the various scales as protection (partial if not complete) against possible differences in school standards.

There are still other selective influences, of course, that may be buried in the data. Age of mother is one of these; family attitude, another. It is probable

TABLE 5

MEANS OF THE NORMALIZED RATINGS FOR THE VARIOUS SUBGROUPS: FRIENDLINESS TO PEERS* AND GREGARIOUSNESS*

Description of Group			Friendliness to Peers*				Gregariousness*			
Subject		Sibling	Age Difference Between Siblings in Months							
Sex	Ordinal Position	Sex	7–24	25–48	49–72	Total	7–24	25–48	49–72	Total
			Score Means				Score Means			
M	2	M	3.33	3.68	4.29	3.76	3.66	4.10	4.47	4.08
M	2	F	3.58	3.62	3.74	3.64	3.67	3.62	3.70	3.66
F	2	M	4.12	4.25	3.98	4.12	4.06	4.16	3.76	3.99
F	2	F	4.04	3.82	4.20	4.02	3.96	3.82	3.99	3.92
M	1	M	3.82	3.80	4.30	3.97	3.58	3.93	4.06	3.86
M	1	F	2.98	4.38	4.03	3.80	3.33	4.36	4.18	3.96
F	1	M	4.22	4.07	4.32	4.20	4.37	4.11	4.39	4.29
F	1	F	4.10	4.08	4.07	4.08	4.07	4.02	4.31	4.13
M	2	M or F	3.45	3.65	4.02	3.70	3.67	3.86	4.08	3.87
F	2	M or F	4.08	4.03	4.09	4.07	4.01	3.99	3.88	3.96
M	1	M or F	3.40	4.09	4.16	3.88	3.45	4.15	4.12	3.91
F	1	M or F	4.16	4.08	4.20	4.14	4.22	4.06	4.35	4.21
M or F	2	M	3.72	3.97	4.14	3.94	3.86	4.13	4.12	4.04
M or F	2	F	3.81	3.72	3.97	3.83	3.81	3.72	3.85	3.79
M or F	1	M	4.02	3.94	4.31	4.09	3.97	4.02	4.23	4.08
M or F	1	F	3.54	4.23	4.05	3.94	3.70	4.19	4.25	4.04
M	1 or 2	M	3.57	3.74	4.30	3.87	3.62	4.02	4.27	3.97
M	1 or 2	F	3.28	4.00	3.88	3.72	3.50	4.00	3.94	3.81
F	1 or 2	M	4.17	4.16	4.15	4.16	4.22	4.13	4.08	4.14
F	1 or 2	F	4.07	3.95	4.14	4.05	4.01	3.92	4.15	4.03
M	1 or 2	M or F	3.43	3.87	4.00	3.80	3.56	4.01	4.10	3.89
F	1 or 2	M or F	4.12	4.05	4.14	4.11	4.11	4.02	4.12	4.08
M or F	1 or 2	M	3.87	3.95	4.22	4.02	3.92	4.08	4.17	4.06
M or F	1 or 2	F	3.68	3.97	4.01	3.89	3.76	3.96	4.05	3.92
M or F	2	M or F	3.77	3.84	4.05	3.89	3.84	3.93	3.98	3.92
M or F	1	M or F	3.78	4.08	4.18	4.01	3.84	4.11	4.24	4.06
M or F	1 or 2	M or F	3.77	3.96	4.12	3.95	3.84	4.02	4.11	3.99

* From reference 14.

TABLE 6

MEANS OF THE NORMALIZED RATINGS FOR THE VARIOUS SUBGROUPS: POPULARITY AND LEADERSHIP*

Description of Group			Popularity				Leadership*			
Subject		Sibling	Age Difference Between Siblings in Months							
Sex	Ordinal Position	Sex	7–24	25–48	49–72	Total	7–24	25–48	49–72	Total
			Score Means				Score Means			
M	2	M	3.70	4.01	4.29	4.00	3.80	3.84	4.45	4.03
M	2	F	3.74	3.81	3.74	3.76	3.71	3.73	3.69	3.71
F	2	M	4.22	4.14	4.02	4.12	4.06	4.24	4.10	4.16
F	2	F	3.79	3.35	4.31	3.82	3.86	3.77	4.25	3.96
M	1	M	3.72	3.64	4.14	3.84	3.69	3.52	4.39	3.87
M	1	F	3.56	4.20	3.88	3.88	3.57	4.28	4.33	4.06
F	1	M	4.20	4.26	4.18	4.21	4.45	4.36	4.30	4.37
F	1	F	4.04	4.30	4.28	4.21	3.69	4.06	3.95	3.90
M	2	M or F	3.72	3.91	4.01	3.88	3.76	3.79	4.07	3.87
F	2	M or F	4.00	3.74	4.16	3.97	3.96	4.01	4.22	4.06
M	1	M or F	3.64	3.92	4.01	3.86	3.63	3.90	4.36	3.96
F	1	M or F	4.12	4.28	4.23	4.21	4.07	4.21	4.13	1.14
M or F	2	M	3.96	4.08	4.15	4.06	3.93	4.04	4.32	4.10
M or F	2	F	3.77	3.58	4.02	3.79	3.79	3.75	3.97	3.84
M or F	1	M	3.96	3.95	4.16	4.02	4.07	3.94	4.35	4.12
M or F	1	F	3.80	4.25	4.08	4.04	3.63	4.17	4.14	3.98
M	1 or 2	M	3.71	3.83	4.22	3.92	3.75	3.68	4.42	3.95
M	1 or 2	F	3.65	4.00	3.81	3.82	3.64	4.01	4.01	3.89
F	1 or 2	M	4.21	4.20	4.10	4.17	4.25	4.30	4.25	4.27
F	1 or 2	F	3.92	3.83	4.29	4.01	3.78	3.92	4.10	3.93
M	1 or 2	M or F	3.68	3.92	4.01	3.87	3.69	3.84	4.22	3.92
F	1 or 2	M or F	4.06	4.02	4.20	4.09	4.02	4.11	4.17	4.10
M or F	1 or 2	M	3.96	4.02	4.16	4.04	4.00	3.99	4.34	4.11
M or F	1 or 2	F	3.78	3.92	4.05	3.92	3.71	3.96	4.06	3.91
M or F	2	M or F	3.86	3.83	4.09	3.93	3.86	3.90	4.15	3.97
M or F	1	M or F	3.88	4.10	4.12	4.03	3.85	4.06	4.24	4.05
M or F	1 or 2	M or F	3.87	3.97	4.10	3.98	3.85	3.98	4.20	4.01

* Starred scale from reference 14, unstarred from reference 4.

that the mothers of our second-borns were slightly older than the mothers of our first-borns, for instance. We had no way of checking on this. (See 10 and 11 for further comment on selective influences.)

We are presenting variance data for the total population only (see Tables 14-22). Significant specific relations in the spacing subgroups which are not spelled out by the variance data offered will be described as we go along. The *F*'s are given in the tables only if statistically significant, or if approaching statistical significance. With 1 and 345 degrees of freedom, an *F* of 3.86 is needed for significance at the 5 per cent point and of 6.70 for significance at the 1 per cent point; while with 2 and 345 degrees of freedom, the *F*'s necessary for comparable *p*'s are, respectively, 3.02 and 4.06. In computing the *F*'s the residual vari-

ance was used as the error term (see Tables 14-22). In our data no single variable effect, since the degrees of freedom are small, can be shown to operate over and above interaction effects when these are significant.

When necessary to judge significance, *t*'s have been computed; but the *t*'s are not presented here in the interests of economy. Relations described can be assumed, unless we specify to the contrary, to be significant at the 5 per cent point or better, a two-tailed test having been employed. Minimal differences between the smaller group means of .45 to .50 tend to be necessary for significance, though, of course, no specific quantity can be named (Tables 5-13). Should the reader wish some idea of the likely reliabilities of the measures used, we can refer him to the monograph by Richards and Powell (14) for a rough notion of

TABLE 7

MEANS OF THE NORMALIZED RATINGS FOR THE VARIOUS SUBGROUPS: KINDNESS*

Description of Group			Kindness*			
Subject		Sibling	Age Difference Between Siblings in Months			
Sex	Ordinal Position	Sex	7–24	25–48	49–72	Total
			Score Means			
M	2	M	3.78	3.75	4.12	3.88
M	2	F	3.98	4.18	3.46	3.87
F	2	M	4.14	4.13	4.02	4.09
F	2	F	4.20	3.67	4.07	3.98
M	1	M	3.77	3.28	4.34	3.80
M	1	F	3.92	3.85	4.01	3.93
F	1	M	4.30	3.86	4.03	4.06
F	1	F	3.81	4.03	3.83	3.89
M	2	M or F	3.88	3.96	3.79	3.88
F	2	M or F	4.17	3.90	4.04	4.04
M	1	M or F	3.84	3.56	4.18	3.86
F	1	M or F	4.05	3.95	3.93	3.98
M or F	2	M	3.96	3.94	4.07	3.99
M or F	2	F	4.09	3.92	3.76	3.92
M or F	1	M	4.04	3.57	4.18	3.93
M or F	1	F	3.86	3.94	3.92	3.91
M	1 or 2	M	3.78	3.51	4.23	3.84
M	1 or 2	F	3.95	4.02	3.74	3.90
F	1 or 2	M	4.22	3.99	4.02	4.08
F	1 or 2	F	4.00	3.85	3.95	3.93
M	1 or 2	M or F	3.86	3.76	3.98	3.87
F	1 or 2	M or F	4.11	3.92	3.98	4.01
M or F	1 or 2	M	4.00	3.75	4.13	3.96
M or F	1 or 2	F	3.98	3.93	3.84	3.92
M or F	2	M or F	4.02	3.93	3.92	3.96
M or F	1	M or F	3.95	3.76	4.05	3.92
M or F	1 or 2	M or F	3.99	3.84	3.98	3.94

* From reference 14.

TABLE 8

MEANS OF THE NORMALIZED RATINGS FOR THE VARIOUS SUBGROUPS: QUARRELSOMENESS* AND REVENGEFULNESS

Description of Group			Quarrelsomeness*				Revengefulness			
Subject		Sibling	Age Difference Between Siblings in Months							
Sex	Ordinal Position	Sex	7–24	25–48	49–72	Total	7–24	25–48	49–72	Total
			Score Means				Score Means			
M	2	M	4.56	4.14	4.47	4.39	4.48	3.94	4.12	4.18
M	2	F	4.07	4.10	4.31	4.16	4.27	4.03	4.21	4.17
F	2	M	3.63	4.03	3.53	3.73	3.68	4.10	3.95	3.91
F	2	F	3.88	3.99	3.56	3.81	3.79	4.08	3.83	3.90
M	1	M	3.68	4.49	3.89	4.02	4.11	4.51	3.97	4.20
M	1	F	4.04	4.64	4.34	4.34	4.16	4.59	4.00	4.25
F	1	M	4.40	4.03	4.31	4.25	3.72	3.76	4.00	3.83
F	1	F	3.89	3.91	3.80	3.87	3.95	3.98	4.00	3.98
M	2	M or F	4.32	4.12	4.39	4.28	4.37	3.99	4.16	4.17
F	2	M or F	3.76	4.01	3.54	3.77	3.73	4.09	3.89	3.91
M	1	M or F	3.86	4.56	4.12	4.18	4.14	4.55	3.99	4.22
F	1	M or F	4.14	3.97	4.06	4.06	3.83	3.87	3.99	3.90
M or F	2	M	4.10	4.08	4.00	4.06	4.08	4.02	4.04	4.04
M or F	2	F	3.98	4.04	3.93	3.98	4.03	4.06	4.02	4.04
M or F	1	M	4.04	4.26	4.10	4.13	3.91	4.14	3.98	4.01
M or F	1	F	3.97	4.28	4.07	4.10	4.06	4.28	4.00	4.11
M	1 or 2	M	4.12	4.31	4.18	4.20	4.29	4.23	4.04	4.19
M	1 or 2	F	4.06	4.37	4.32	4.25	4.21	4.31	4.11	4.21
F	1 or 2	M	4.01	4.03	3.92	3.99	3.70	3.93	3.98	3.87
F	1 or 2	F	3.89	3.95	3.68	3.84	3.87	4.03	3.92	3.94
M	1 or 2	M or F	4.09	4.34	4.25	4.23	4.25	4.27	4.08	4.20
F	1 or 2	M or F	3.95	3.99	3.80	3.91	3.78	3.98	3.95	3.90
M or F	1 or 2	M	4.07	4.17	4.05	4.10	3.99	4.08	4.01	4.03
M or F	1 or 2	F	3.97	4.16	4.00	4.04	4.04	4.17	4.01	4.08
M or F	2	M or F	4.04	4.06	3.96	4.02	4.05	4.04	4.03	4.04
M or F	1	M or F	4.00	4.27	4.09	4.12	3.98	4.21	3.99	4.06
M or F	1 or 2	M or F	4.02	4.17	4.03	4.07	4.02	4.12	4.01	4.05

* Starred scale from reference 14, unstarred from reference 4.

those that may be expected in the case of the Fels items, and to (5) for those likely in the case of the California Inventory items. We have no reliability data to offer which are based on our material.

We shall often refer to the groups in code—e.g., M2F [25-48]. The first letter refers to the sex of the children in the group and the first number to their ordinal position, while the second letter refers to the sex of their sibs. The numbers in brackets indicate the range, in months, of the age difference between the children and their sibs. Thus M2F [25-48] designates the group of males each of whom has a sister within two to four years older.

II. RESULTS

Since the detail may seem overwhelming, the results will first be stated here in outline form. In the next section major relations will be singled out for discus-

sion, and some group characterizations will be attempted. Let us also say that, because the interrelations among our variables are so complicated, we have under the various sections presented below sometimes given a refocused description of a relation mentioned under an earlier section.

Sib-Age-Disparity Group Differences

1. The variable, age difference between sibs, seems related in a simple way to few of our dependent variables, but appeared in many significant interactions with other independent variables, especially with sex and ordinal position.

2. Sib spacing and the traits we studied showed little correlation in the case of first-born girls or in the case of second-born boys with a sister.

3. The two-to-four-year spacing, as Lasko (12), Foster (7) and Stendler (20) surmised, seemed, according to our findings also, to be a particularly stimulating and stressful one, especially when the sibs were opposite in sex.

4. Although girls tended not to show the trend, boys, with the exception of the M2F's, were, as sib-age disparity widened, rated higher, on the average, in friendliness to peers, gregar-

TABLE 9

MEANS OF THE NORMALIZED RATINGS FOR THE VARIOUS SUBGROUPS: CRUELTY* AND TENDENCY TO FIND FAULT

Description of Group			Cruelty*				Tendency to Find Fault			
Subject		Sibling	Age Difference Between Siblings in Months							
Sex	Ordinal Position	Sex	7–24	25–48	49–72	Total	7–24	25–48	49–72	Total
			Score Means				Score Means			
M	2	M	4.37	3.83	4.25	4.15	4.01	3.95	4.29	4.08
M	2	F	4.32	4.19	4.48	4.33	3.82	4.02	3.86	3.90
F	2	M	3.61	3.95	4.14	3.90	3.85	3.60	4.26	3.90
F	2	F	3.70	4.08	3.78	3.85	3.92	4.08	4.19	4.06
M	1	M	3.98	4.57	4.02	4.19	3.68	4.12	4.01	3.94
M	1	F	4.06	4.35	4.04	4.15	4.16	4.34	4.20	4.23
F	1	M	4.25	4.15	3.85	4.08	4.19	3.97	4.52	4.22
F	1	F	4.19	4.03	4.00	4.07	3.59	4.24	3.88	3.90
M	2	M or F	4.35	4.01	4.37	4.24	3.92	3.99	4.08	3.99
F	2	M or F	3.66	4.02	3.96	3.88	3.88	3.84	4.22	3.98
M	1	M or F	4.02	4.46	4.03	4.17	3.92	4.23	4.10	4.08
F	1	M or F	4.22	4.09	3.93	4.08	3.89	4.10	4.20	4.06
M or F	2	M	3.99	3.89	4.20	4.03	3.93	3.77	4.27	3.99
M or F	2	F	4.01	4.13	4.13	4.09	3.87	4.05	4.03	3.98
M or F	1	M	4.12	4.36	3.94	4.14	3.93	4.04	4.26	4.08
M or F	1	F	4.13	4.19	4.02	4.11	3.87	4.29	4.04	4.07
M	1 or 2	M	4.18	4.20	4.14	4.17	3.84	4.04	4.15	4.01
M	1 or 2	F	4.19	4.27	4.26	4.24	3.99	4.18	4.03	4.07
F	1 or 2	M	3.93	4.05	4.00	3.99	4.02	3.78	4.39	4.06
F	1 or 2	F	3.95	4.05	3.89	3.96	3.75	4.16	4.04	3.98
M	1 or 2	M or F	4.18	4.23	4.20	4.21	3.92	4.11	4.09	4.04
F	1 or 2	M or F	3.94	4.05	3.94	3.98	3.88	3.97	4.21	4.02
M or F	1 or 2	M	4.06	4.12	4.07	4.08	3.93	3.91	4.27	4.04
M or F	1 or 2	F	4.07	4.16	4.08	4.10	3.87	4.17	4.03	4.02
M or F	2	M or F	4.00	4.01	4.16	4.06	3.90	3.91	4.15	3.99
M or F	1	M or F	4.12	4.27	3.98	4.12	3.90	4.17	4.15	4.07
M or F	1 or 2	M or F	4.06	4.14	4.07	4.09	3.90	4.04	4.15	4.03

* Starred scale from reference 14, unstarred from reference 4.

TABLE 10

MEANS OF THE NORMALIZED RATINGS FOR THE VARIOUS SUBGROUPS: TENDENCY TO TEASE AND EXHIBITIONISM

Description of Group			Tendency to Tease				Exhibitionism			
Subject		Sibling	Age Difference Between Siblings in Months							
Sex	Ordinal Position	Sex	7–24	25–48	49–72	Total	7–24	25–48	49–72	Total
			Score Means				Score Means			
M	2	M	3.83	4.01	4.27	4.04	3.87	4.38	4.17	4.14
M	2	F	4.01	4.35	4.96	4.44	4.27	3.86	4.30	4.14
F	2	M	3.41	3.98	3.90	3.76	3.83	3.84	3.92	3.86
F	2	F	3.58	4.04	3.86	3.83	3.77	3.96	3.64	3.79
M	1	M	3.98	4.41	4.00	4.13	4.17	4.15	3.90	4.07
M	1	F	3.88	4.77	4.33	4.33	3.78	4.76	4.34	4.29
F	1	M	3.95	3.83	4.18	3.98	4.04	4.10	4.53	4.22
F	1	F	3.84	4.13	3.88	3.95	3.92	3.68	3.60	3.73
M	2	M or F	3.92	4.18	4.61	4.24	4.07	4.12	4.24	4.14
F	2	M or F	3.49	4.01	3.88	3.79	3.80	3.90	3.78	3.83
M	1	M or F	3.93	4.59	4.16	4.23	3.97	4.46	4.12	4.18
F	1	M or F	3.89	3.98	4.03	3.97	3.98	3.89	4.07	3.98
M or F	2	M	3.62	3.99	4.08	3.90	3.85	4.11	4.04	4.00
M or F	2	F	3.79	4.19	4.41	4.13	4.02	3.91	3.97	3.97
M or F	1	M	3.96	4.12	4.09	4.06	4.10	4.12	4.21	4.15
M or F	1	F	3.86	4.45	4.10	4.14	3.85	4.22	3.97	4.01
M	1 or 2	M	3.90	4.21	4.13	4.08	4.02	4.26	4.03	4.11
M	1 or 2	F	3.95	4.56	4.64	4.38	4.02	4.31	4.32	4.22
F	1 or 2	M	3.68	3.90	4.04	3.87	3.93	3.97	4.22	4.04
F	1 or 2	F	3.71	4.08	3.87	3.89	3.85	3.82	3.62	3.76
M	1 or 2	M or F	3.92	4.38	4.39	4.23	4.02	4.29	4.18	4.16
F	1 or 2	M or F	3.69	3.99	3.95	3.88	3.89	3.90	3.92	3.90
M or F	1 or 2	M	3.79	4.06	4.09	3.98	3.98	4.12	4.13	4.07
M or F	1 or 2	F	3.83	4.32	4.26	4.14	3.94	4.06	3.97	3.99
M or F	2	M or F	3.71	4.09	4.25	4.02	3.94	4.01	4.01	3.98
M or F	1	M or F	3.91	4.28	4.09	4.10	3.98	4.17	4.09	4.08
M or F	1 or 2	M or F	3.81	4.19	4.17	4.06	3.96	4.09	4.05	4.03

iousness (Tables 5, 14), popularity, leadership (Tables 6, 15), and competitiveness (Tables 13, 22), and less high in severity of reaction to defeat (Tables 13, 22).

5. In the main, the mean ratings in leadership (Tables 6, 15), competitiveness (Tables 13, 22), and teasing (Tables 10, 19) were positively correlated with magnitude of difference (at least up to four years) in the age of the sibs.

6. Noteworthy is the greater hostility and competitiveness of first-born boys who have a sib two to four years younger, as compared to those with a sib less than two, or more than four years younger. The spacing-group differences in the following traits were, in most instances, significant: quarrelsomeness, revengefulness (Tables 8, 17), cruelty (Tables 9, 18), unkindness (Tables 7, 16), insistence on rights (Tables 12, 21), and tendency to tease (Tables 10, 19). In addition first-born boys with a sister, when the middle spacing is compared with the closest, were gauged the more jealous (Tables 11, 20), exhibitionistic (Tables 10, 19), and competitive (Tables 13, 22) but, as suggested above, also more friendly, gregarious (Tables 5, 14), popular, and better leaders (Tables 6, 15). Further, first-born boys with a sister two to four years younger were assessed as more jealous (Tables 11, 20), selfish (Tables 12, 21), revengeful (Tables 8, 17), insistent on their

rights (Tables 12, 21), and exhibitionistic (Tables 10, 19) than the parallel group at the widest spacing.

7. Consistent with the picture of male "improvement" in social attitude with spacing is the observation that the M2M [25-48]'s, as compared with the M2M [7-24]'s, scored, on the average, lower in quarrelsomeness, revengefulness (Tables 8, 17), cruelty (Tables 9, 18), and reaction to defeat (Tables 13, 22), but higher on exhibitionism (Tables 10, 19) and competitiveness (Tables 13, 22), while the M2M [49-72]'s, as compared with the M2M [7-24]'s, were judged less selfish (Tables 12, 21), less uncooperative (Tables 11, 20), less reactive to defeat (Tables 13, 22), but at the same time more competitive (Tables 13, 22) and given to teasing (Tables 10, 19).

8. Although the pattern in the traits investigated of the boy with an older sister altered little as the sib-age difference expanded, at the middle spacing, as compared with the closest, he was judged a less poor sport (Tables 13, 22) and less exhibitionistic (Tables 10, 19); and, when the former is compared with the boy whose sister was over four years older, he scored lower also on exhibitionism (Tables 10, 19) and tendency to tease (Tables 10, 19), as well as higher on

TABLE 11

MEANS OF THE NORMALIZED RATINGS FOR THE VARIOUS SUBGROUPS: JEALOUSY* AND UNCOOPERATIVENESS WITH PEERS

Description of Group			Jealousy*				Uncooperativeness with Peers			
Subject		Sibling	Age Difference Between Siblings in Months							
Sex	Ordinal Position	Sex	7–24	25–48	49–72	Total	7–24	25–48	49–72	Total
			Score Means				Score Means			
M	2	M	3.96	3.80	3.75	3.83	4.07	4.08	3.65	3.94
M	2	F	3.96	3.65	3.76	3.79	4.17	4.28	4.16	4.20
F	2	M	3.70	4.04	4.27	4.00	4.17	4.11	3.87	4.05
F	2	F	4.10	4.24	4.38	4.24	3.94	4.13	3.63	3.90
M	1	M	3.84	3.97	3.77	3.86	3.89	4.04	3.92	3.95
M	1	F	3.88	4.52	3.76	4.05	4.27	4.37	4.17	4.27
F	1	M	4.48	4.21	4.56	4.42	3.93	3.46	3.84	3.74
F	1	F	4.19	4.06	3.83	4.02	4.19	3.72	3.72	3.88
M	2	M or F	3.96	3.72	3.75	3.81	4.12	4.18	3.91	4.07
F	2	M or F	3.90	4.14	4.33	4.12	4.05	4.12	3.75	3.97
M	1	M or F	3.86	4.24	3.76	3.95	4.08	4.20	4.04	4.11
F	1	M or F	4.33	4.14	4.20	4.22	4.06	3.59	3.78	3.81
M or F	2	M	3.83	3.92	4.01	3.92	4.12	4.10	3.76	3.99
M or F	2	F	4.03	3.94	4.07	4.02	4.06	4.21	3.90	4.05
M or F	1	M	4.16	4.09	4.16	4.14	3.91	3.75	3.88	3.85
M or F	1	F	4.03	4.29	3.79	4.04	4.23	4.04	3.95	4.07
M	1 or 2	M	3.90	3.88	3.76	3.85	3.98	4.06	3.78	3.94
M	1 or 2	F	3.92	4.08	3.76	3.92	4.22	4.32	4.17	4.24
F	1 or 2	M	4.09	4.13	4.42	4.21	4.05	3.78	3.85	3.90
F	1 or 2	F	4.14	4.15	4.10	4.13	4.07	3.93	3.67	3.89
M	1 or 2	M or F	3.91	3.98	3.76	3.88	4.10	4.19	3.98	4.09
F	1 or 2	M or F	4.11	4.14	4.26	4.17	4.06	3.86	3.76	3.89
M or F	1 or 2	M	3.99	4.00	4.09	4.03	4.02	3.92	3.82	3.92
M or F	1 or 2	F	4.03	4.12	3.93	4.03	4.14	4.12	3.92	4.06
M or F	2	M or F	3.93	3.93	4.04	3.97	4.09	4.15	3.83	4.02
M or F	1	M or F	4.10	4.19	3.98	4.09	4.07	3.90	3.91	3.96
M or F	1 or 2	M or F	4.01	4.06	4.01	4.03	4.08	4.02	3.87	3.99

* Starred scale from reference 14, unstarred from reference 4.

TABLE 12

MEANS OF THE NORMALIZED RATINGS FOR THE VARIOUS SUBGROUPS: INSISTENCE ON RIGHTS AND SELFISHNESS

Description of Group			Insistence on Rights				Selfishness			
Subject		Sibling	Age Difference Between Siblings in Months							
Sex	Ordinal Position	Sex	7–24	25–48	49–72	Total	7–24	25–48	49–72	Total
			Score Means				Score Means			
M	2	M	4.18	3.93	4.21	4.10	4.16	4.18	3.61	3.99
M	2	F	3.78	4.13	3.64	3.85	4.16	4.19	4.16	4.17
F	2	M	3.54	3.67	3.87	3.69	3.91	4.32	3.84	4.02
F	2	F	4.21	3.84	3.95	4.00	3.45	4.19	3.93	3.86
M	1	M	3.59	4.87	4.15	4.08	3.71	4.06	3.86	3.88
M	1	F	4.18	4.60	4.05	4.28	4.09	4.40	3.83	4.11
F	1	M	4.22	4.08	4.56	4.29	3.95	3.91	4.14	4.00
F	1	F	3.69	3.71	4.07	3.82	4.02	4.00	4.09	4.04
M	2	M or F	3.98	4.03	3.92	3.98	4.16	4.19	3.89	4.08
F	2	M or F	3.88	3.76	3.91	3.85	3.68	4.26	3.89	3.94
M	1	M or F	3.89	4.54	4.10	4.18	3.90	4.23	3.85	3.99
F	1	M or F	3.95	3.90	4.31	4.05	3.98	3.96	4.12	4.02
M or F	2	M	3.86	3.80	4.04	3.90	4.04	4.25	3.73	4.00
M or F	2	F	4.00	3.99	3.79	3.93	3.80	4.19	4.05	4.01
M or F	1	M	3.90	4.28	4.35	4.18	3.83	3.98	4.00	3.94
M or F	1	F	3.93	4.16	4.06	4.05	4.05	4.20	3.96	4.07
M	1 or 2	M	3.89	4.21	4.18	4.09	3.94	4.12	3.74	3.93
M	1 or 2	F	3.98	4.37	3.84	4.06	4.12	4.29	4.00	4.14
F	1 or 2	M	3.88	3.88	4.21	3.99	3.93	4.11	3.99	4.01
F	1 or 2	F	3.95	3.78	4.01	3.91	3.73	4.10	4.01	3.95
M	1 or 2	M or F	3.93	4.29	4.01	4.08	4.03	4.21	3.87	4.03
F	1 or 2	M or F	3.92	3.83	4.11	3.95	3.83	4.11	4.00	3.98
M or F	1 or 2	M	3.88	4.04	4.20	4.04	3.93	4.12	3.86	3.97
M or F	1 or 2	F	3.96	4.07	3.93	3.99	3.93	4.20	4.00	4.04
M or F	2	M or F	3.93	3.89	3.92	3.91	3.92	4.22	3.89	4.01
M or F	1	M or F	3.92	4.22	4.21	4.12	3.94	4.09	3.98	4.00
M or F	1 or 2	M or F	3.92	4.06	4.06	4.01	3.93	4.16	3.93	4.01

kindness (Tables 7, 16) and insistence on rights (Tables 12, 21).

9. In contrast is the case of the girl with an older brother. Here the following traits were positively correlated with the degree of sib-age disparity: jealousy (Tables 11, 20), cruelty (Tables 9, 18), tendency to tease (Tables 10, 19), tendency to find fault (Tables 9, 18), and competitiveness (Tables 13, 22). An apparent peak was reached at the middle spacing in selfishness (Tables 12, 21) and quarrelsomeness (Tables 8, 17), while a dip occurred in intensity of reaction to defeat (Tables 13, 22).

10. The ratings given the girl with an older sister at the widest sib-age difference, as compared with the closest, were higher in the case of popularity, leadership (Tables 6, 15), and severity of reaction to defeat (Tables 13, 22). A formal peak in selfishness (Tables 12, 21), uncooperativeness (Tables 11, 20), and teasing (Tables 10, 19) was reached at the middle spacing, though the difference between the middle and widest spacing groups in these traits is, in most cases, insignificant. Popularity and kindness showed a dip at the two-to-four-year spacing.

11. With the expansion of the sib-age difference, girls with an older brother, in comparison with boys with an older brother, tended to shift from being the more friendly to peers, gregarious

TABLE 13

MEANS OF THE NORMALIZED RATINGS FOR THE VARIOUS SUBGROUPS: COMPETITIVENESS* AND BEHAVIOR REACTION TO DEFEAT IN COMPETITIVE ACTIVITY

Description of Group			Competitiveness*				Behavior Reaction to Defeat in Competitive Activity			
Subject		Sibling	Age Difference Between Siblings in Months							
Sex	Ordinal Position	Sex	7–24	25–48	49–72	Total	7–24	25–48	49–72	Total
			Score Means				Score Means			
M	2	M	3.65	4.14	4.08	3.95	4.52	3.86	3.98	4.12
M	2	F	3.72	3.62	3.45	3.60	4.21	3.69	3.97	3.96
F	2	M	3.84	4.43	4.24	4.17	3.98	3.28	4.41	3.89
F	2	F	3.88	3.65	3.92	3.82	3.69	3.67	4.14	3.84
M	1	M	3.72	3.92	4.30	3.98	4.42	4.08	3.84	4.11
M	1	F	3.64	4.35	4.31	4.10	4.14	4.05	3.85	4.01
F	1	M	4.26	4.40	4.22	4.29	4.17	3.96	4.10	4.08
F	1	F	3.79	3.86	4.07	3.91	4.03	4.15	4.08	4.08
M	2	M or F	3.68	3.88	3.76	3.78	4.37	3.77	3.97	4.04
F	2	M or F	3.86	4.04	4.08	3.99	3.84	3.48	4.28	3.86
M	1	M or F	3.68	4.13	4.31	4.04	4.28	4.07	3.84	4.06
F	1	M or F	4.02	4.13	4.14	4.10	4.10	4.06	4.09	4.08
M or F	2	M	3.74	4.28	4.16	4.06	4.25	3.57	4.19	4.00
M or F	2	F	3.80	3.64	3.68	3.71	3.95	3.68	4.05	3.90
M or F	1	M	3.99	4.16	4.26	4.14	4.30	4.02	3.97	4.10
M or F	1	F	3.71	4.10	4.19	4.00	4.08	4.10	3.96	4.05
M	1 or 2	M	3.68	4.03	4.19	3.97	4.47	3.97	3.91	4.12
M	1 or 2	F	3.68	3.99	3.88	3.85	4.17	3.87	3.91	3.98
F	1 or 2	M	4.05	4.41	4.23	4.23	4.08	3.62	4.25	3.98
F	1 or 2	F	3.83	3.76	3.99	3.86	3.86	3.91	4.11	3.96
M	1 or 2	M or F	3.68	4.01	4.03	3.91	4.32	3.92	3.91	4.05
F	1 or 2	M or F	3.94	4.08	4.11	4.05	3.97	3.77	4.18	3.97
M or F	1 or 2	M	3.87	4.22	4.21	4.10	4.27	3.80	4.08	4.05
M or F	1 or 2	F	3.76	3.87	3.94	3.86	4.02	3.89	4.01	3.97
M or F	2	M or F	3.77	3.96	3.92	3.88	4.10	3.62	4.12	3.95
M or F	1	M or F	3.85	4.13	4.23	4.07	4.19	4.06	3.96	4.07
M or F	1 or 2	M or F	3.81	4.05	4.07	3.98	4.14	3.84	4.04	4.01

* Starred scale from reference 14, unstarred from reference 4.

(Tables 5, 14) and popular (Tables 6, 15) to being the less friendly and gregarious. A similar shift between the sexes did not occur when the sib was a female.

12. When the sib-age difference was under two years, boys with an older brother showed no consistent differences from boys with an older sister, except in quarrelsomeness (Tables 8, 17), M2M's here exceeding M2F's. When the sib-age difference was over four years, the former group scored, in relation to the latter, higher in friendliness to peers, gregariousness (Tables 5, 14), cooperativeness (Tables 11, 20), popularity (Tables 6, 15), kindness (Tables 7, 16), competitiveness (Tables 13 22), insistence on rights (Tables 12, 21), and leadership (Tables 6, 15), as well as lower in selfishness (Tables 12, 21) and tendency to tease (Tables 10, 19).

13. Only at the two-to-four year spacing were the mean ratings for boys for insistence on rights consistently higher than for girls (Tables 12, 21). At the closest spacing, however, F1M's exceeded significantly M1M's.

14. When the sibs differed in age by less than two years, no significant group differences in exhibitionism (Tables 10, 19) were apparent; but when the age difference was over four years, those from opposite-sex pairs tended to be

TABLE 14

ANALYSIS OF THE VARIANCE FOR VARIOUS TRAITS

Source of Variance	*df*	Trait					
		Friendliness to Peers			Gregariousness		
		Sum of Squares	Estimate of Variance	*F*	Sum of Squares	Estimate of Variance	*F*
Total	383	326.6677			309.8036		
Between groups	23	43.4475	1.8892		31.7079	1.3812	
Within groups	360	283.2202	.7867		278.1257	.7726	
Between replications	15	15.8619	1.0575		5.7398	.3827	
Residual	345	267.3583	.7750		272.3859	.7895	
Between Variables							
Between sex groups	1	8.5682	8.5682	11.1	3.5075	3.5075	4.4
Between sibling's-sex groups	1	1.5606	1.5606		2.0097	2.0097	
Between ordinal-position groups	1	1.5939	1.5939		1.7713	1.7713	
Between spacing groups	2	7.5604	3.7847	4.9	4.8093	2.4046	3.0
First-order interactions							
Subject's sex—sibling's sex	1	.0048	.0048		.0284	.0284	
Subject's sex—ordinal position	1	.4121	.4121		1.0458	1.0458	
Subject's sex—spacing	2	7.6317	3.8159	4.9	6.3172	3.1580	4.0
Sibling's sex—ordinal position	1	.0341	.0341		.9087	.9087	
Sibling's sex—spacing	2	1.1768	.5884		.0209	.0104	
Ordinal position—spacing	2	.9123	.4562		1.0686	.5343	
Second-order interactions							
Subject's sex—sibling's sex—ordinal position	1	.0018	.0018		2.2817	2.2817	
Subject's sex—sibling's sex—spacing	2	3.5544	1.7772		1.7022	.8511	
Subject's sex—ordinal position spacing	2	1.5089	.7544		2.3573	1.1786	
Sibling's sex—ordinal position spacing	2	4.9809	2.4904	3.2	2.3235	1.1618	
Third-order interaction							
Subject's sex—sibling's sex—ordinal position—spacing	2	3.5566	1.7783		1.6158	.8079	

gauged higher on the trait than those from same-sex pairs. The same trend obtained at the middle spacing among first-borns, but the M2M [25-48]'s exceeded the M2F [25-48]'s.

15. Only at the middle spacing were second-born girls with a brother, as compared to those with a sister, assessed as the more friendly (Tables 5, 14), popular (Tables 6, 15), kind (Tables 7, 16), competitive (Tables 13, 22), better leaders (Tables 6, 15), and less critical (Tables 9, 18).

16. When the sib-age disparity was over four years, those from sib pairs similar in sex tended to be rated more popular (Tables 6, 15) than those from opposite-sex pairs; but at the middle spacing M1F's exceeded M1M's, and at both the under-two and two-to-four-year spacing F2M's were rated higher than F2F's.

17. Among second-borns sex differences in jealousy (Tables 11, 20) increased with spacing, being insignificant at the closest and significant at the widest, girls at the latter interval surpassing boys.

18. At the under-two and over-four-year spacings F1M's scored higher in quarrelsomeness (Tables 8, 17), insistence on rights (Tables 12, 21), jealousy (Tables 11, 20), and criticalness (Tables 9, 18) than did M1M's.

19. At the closest and widest spacings second-born boys received a higher mean rating on cruelty (Tables 9, 18) than did girls, but no significant sex difference obtained among first-borns.

20. When the sib-age difference was less than two years, and also among first-borns at the middle spacing, boys were rated higher in revenge-

TABLE 15

ANALYSIS OF THE VARIANCE FOR VARIOUS TRAITS

Source of Variance	*df*	Trait					
		Popularity			Leadership		
		Sum of Squares	Estimate of Variance	*F*	Sum of Squares	Estimate of Variance	*F*
Total	383	319.4008	.8342		331.2067	.8648	
Between groups	23	27.6633	1.2028		34.6563	1.5068	
Within groups	360	291.8275	.8106		296.5504	.8238	
Between replications	15	12.8728	.8582		16.8014	1.1201	
Residual	345	278.0547	.8086		279.7490	.8109	
Between variables							
Between sex groups	1	4.8196	4.8196	6.0	2.9156	2.9156	3.6
Between sibling's-sex groups	1	1.6511	1.6511		3.6895	3.6895	4.6
Between ordinal-position groups	1	1.0375	1.0375		.7298	.7298	
Between spacing groups	2	3.4951	1.7476		7.5748	3.7874	4.7
First-order interactions							
Subject's sex—sibling's sex	1	.0585	.0585		1.9580	1.9580	
Subject's sex—ordinal position	1	1.7931	1.7931		.0198	.0198	
Subject's sex—spacing	2	1.2559	.6280		2.3050	1.1075	
Sibling's sex—ordinal position	1	1.9551	1.9551		.3788	.3788	
Sibling's sex—spacing	2	.0999	.0500		1.5514	.7757	
Ordinal position—spacing	2	1.2066	.6033		.5322	.2661	
Second-order interactions							
Subject's sex—sibling's sex—ordinal position	1	.0096	.0096		3.9204	3.9204	4.8
Subject's sex—sibling's sex—spacing	2	5.5654	2.7827	3.4	4.2219	2.1110	
Subject's sex—ordinal position—spacing	2	1.0055	.5028		1.6235	.8118	
Sibling's sex—ordinal position—spacing	2	2.8043	1.4022		2.7947	1.3974	
Third-order interaction							
Subject's sex—sibling's sex—ordinal position—spacing	2	.9061	.4530		.3509	.1755	

fulness (Tables 8, 17) than girls, but no significant sex difference was apparent among other groups.

21. When the sib spacing was close, second-born girls received lower ratings on severity of reaction to defeat (Tables 13, 22) than when the sib spacing was more than four years. The reverse trend seemed to hold for second-born boys.

Sib's-Sex Group Differences[3,4]

22. The variable, sex of the sibling, was most frequently involved in interactions with the variable, child's sex.

23. In the main, children with a brother received higher ratings, on the average, in competitiveness and leadership than did those with a sister. However M1F [25-48]'s were judged more competitive and better leaders than M1M [25-48]'s.

24. In fact, first-born boys with a sister, when the age difference was two to four years, exceeded boys with a brother in ratings on all the "positive" social traits, as well as in jealousy, exhibitionism, and competitiveness. Similarly, second-born girls with a brother at the middle spacing tended to be assessed higher than second-born girls with a sister in not only all "positive" social traits but also in competitiveness; and the

[3] From this point on no table references will be given in the outline, as the reader doubtless by this time knows his way around among the data.

[4] See also previous section, Items 3, 6, 9, 10, 11, 13, 14, 15, 16, 18 and 19.

TABLE 16

ANALYSIS OF THE VARIANCE FOR VARIOUS TRAITS

Source of Variance	*df*	Trait		
		Kindness		
		Sum of Squares	Estimate of Variance	*F*
Total	383	312.7300		
Between groups	23	23.1005	1.0048	
Within groups	360	289.6205	.8045	
Between replications	15	21.2527	1.4168	
Residual	345	268.3678	.7779	
Between variables				
Between sex groups	1	1.8068	1.8068	
Between sibling's-sex groups	1	.1434	.1434	
Between ordinal-position groups	1	.1004	.1004	
Between spacing groups	2	1.6070	.8035	
First-order interactions				
Subject's sex—sibling's sex	1	.0984	.0984	
Subject's sex—ordinal position	1	.0451	.0451	
Subject's sex—spacing	2	1.0089	.5044	
Sibling's sex—ordinal position	1	.0542	.0542	
Sibling's sex—spacing	2	3.6232	1.8116	
Ordinal position—spacing	2	1.5021	.7511	
Second-order interactions				
Subject's sex—sibling's sex—ordinal position	1	.2109	.2109	
Subject's sex—sibling's sex—spacing	2	4.8473	2.4236	3.1
Subject's sex—ordinal position—spacing	2	3.6531	1.8266	
Sibling's sex—ordinal position—spacing	2	2.0393	1.0196	
Third-order interaction				
Subject's sex—sibling's sex—ordinal position —spacing	2	1.4604	.7302	

former tended also to be rated lower in criticalness and not quite significantly lower in severity of reaction to defeat. At the closest and widest spacings few parallel sib-sex group differences were significant.

25. First-borns with a sib of opposite sex were gauged more quarrelsome, jealous, fault-finding, exhibitionistic, insistent on rights than those with a sib of the same sex. No similar trend was observed in the case of second-borns. If anything, the trend was the reverse. M2M [7-24]'s were judged more quarrelsome than M2F [7-24]'s; M2M [25-48]'s, more exhibitionistic than M2F [25-48]'s; F2F [25-48]'s, more fault-finding than F2M [25-48]'s, and M2M [49-72]'s than M2F [49-72]'s.

26. In friendliness to peers M1M [7-24]'s exceeded M1F [7-24]'s; and M2M [49-72]'s, M2F [49-72]'s; but, as stated above, M1F [25-48]'s were gauged higher than M1M [25-48]'s.

27. Boys with a much older brother received a higher assessment, on the average, than boys with a much older sister in not only friendliness to peers, but in gregariousness, leadership, popularity, kindness, competitiveness, insistence on rights, cooperativeness, and were judged also less selfish as well as less inclined to tease.

Ordinal-Position Group Differences[5]

28. Among the interactions involving the ordinal-position variable, those with the variable, child's sex, were the most frequent. The frequency of significant interactions suggests the need for caution in generalization about the effects of birth-order.

29. There were few ordinal-position group differences when the child and his sib were similar in sex (see especially girls with a sister) but, when opposite in sex, many differences were noted.

[5] See also previous sections, Items 2, 6, 14, 16, 19, 21, 23, 24, 25, 26.

30. First-borns tended to be rated, on the average, as more competitive than second-borns, as Adler (1) and Sanford *et al.* (16) have also suggested, the ordinal-position difference increasing with spacing.

31. First-born boys from opposite-sex sibling pairs, in comparison with parallel groups of second-borns, tended at the two wider spacings to be judged more aggressive socially—i.e., to be more friendly to peers, gregarious, and better leaders, while at the same time, more insistent on their rights and competitive; and, furthermore, at the middle spacing, more exhibitionistic, jealous, quarrelsome, and revengeful also. A somewhat similar trend is to be noted for girls in that girls with a brother their junior, in comparison with girls with a brother their senior, were gauged at one or another spacing more quarrelsome, cruel, insistent on rights, jealous, gregarious, competitive, given to teasing, and exhibitionistic. Differences, however, tended to be most marked at the close spacing.

32. Those with a sib two to four years younger were evaluated as more upset by defeat, on the average, than those with a sib correspondingly older, and, if the child was a male, more revengeful also.

33. Second-borns from same-sex pairs at the sib spacing under two years scored higher, on the average, on the trait, insistence on rights, than first-borns; whereas in the case of those from opposite-sex pairs, the situation was reversed. At the spacings over two years first-borns tended to be rated more insistent.

34. Boys with an older brother were assessed as more hostile, in the main, than those with

TABLE 17

ANALYSIS OF THE VARIANCE FOR VARIOUS TRAITS

Source of Variance	*df*	Trait					
		Quarrelsomeness			Revengefulness		
		Sum of Squares	Estimate of Variance	*F*	Sum of Squares	Estimate of Variance	*F*
Total	383	345.3629			350.5617	.9153	
Between groups	23	37.0519	1.6110		20.6773	.8990	
Within groups	360	308.3110	.8564		329.8844	.9163	
Between replications	15	19.6742	1.3116		24.0277	1.6018	
Residual	345	288.6368	.8366		305.8567	.8865	
Between variables							
Between sex groups	1	9.8785	9.8785	11.8	8.6280	8.6280	9.7
Between sibling's-sex groups	1	.4036	.4036		.1785	.1785	
Between ordinal-position groups	1	.6675	.6675		.0353	.0353	
Between spacing groups	2	1.2750	.6380		.9653	.4826	
First-order interactions							
Subject's sex—sibling's sex	1	1.0220	1.0220		.0380	.0380	
Subject's sex—ordinal position	1	3.2801	3.2801	3.9	.0944	.0944	
Subject's sex—spacing	2	1.6714	.8357		1.8394	.9197	
Sibling's sex—ordinal position	1	.0087	.0087		.2099	.2099	
Sibling's sex—spacing	2	.0471	.0236		.0976	.0488	
Ordinal position—spacing	2	.6797	.3399		.9899	.4950	
Second-order interactions							
Subject's sex—sibling's sex—ordinal position	1	6.5130	6.5130	7.8	.0376	.0376	
Subject's sex—sibling's sex—spacing	2	.4294	.2147		.6030	.3016	
Subject's sex—ordinal position—spacing	2	9.5303	4.7652	5.7	6.6354	3.3177	3.7
Sibling's sex—ordinal position—spacing	2	.0218	.0109		.1085	.0542	
Third-order interaction							
Subject's sex—sibling's sex—ordinal position—spacing	2	1.6229	.8114		.1565	.0782	

TABLE 18

ANALYSIS OF THE VARIANCE FOR VARIOUS TRAITS

Source of Variance	*df*	Trait					
		Cruelty			Tendency to Find Fault		
		Sum of Squares	Estimate of Variance	*F*	Sum of Squares	Estimate of Variance	*F*
Total	383	273.7443	.7147		340.8929		
Between groups	23	22.1043	.9611		19.2066	.8351	
Within groups	360	251.6400	.6990		321.6863	.8936	
Between replications	15	18.7210	1.2481		18.8026	1.2535	
Residual	345	232.9190	.6751		302.8837	.8779	
Between variables							
Between sex groups	1	5.6042	5.6042	8.3	.0030	.0030	
Between sibling's-sex groups	1	.0488	.0488		.0449	.0449	
Between ordinal-position groups	1	.4490	.4490		.5528	.5528	
Between spacing groups	2	.5325	.2663		3.0914	1.0957	
First-order interactions							
Subject's sex—sibling's sex	1	.3985	.3985		.3272	.3272	
Subject's sex—ordinal position	1	1.3908	1.3908		.0022	.0022	
Subject's sex—spacing	2	.0154	.0077		.0003	.4502	
Sibling's sex—ordinal position	1	.1722	.1722		.0146	.0146	
Sibling's sex—spacing	2	.0228	.0114		3.5460	1.7730	
Ordinal position—spacing	2	3.3715	1.6858		1.0166	.5083	
Second-order interactions							
Subject's sex—sibling's sex—ordinal position	1	.2227	.2227		5.1038	5.1038	5.8
Subject's sex—sibling's sex—spacing	2	.2048	.1024		2.1326	1.0663	
Subject's sex—ordinal position—spacing	2	7.3787	3.6894	5.5	.0692	.0346	
Sibling's sex—ordinal position—spacing	2	1.2802	.6401		.0651	.0326	
Third-order interaction							
Subject's sex—sibling's sex—ordinal position—spacing	2	1.0122	.5061		1.4369	.7185	

a younger brother, except at the middle spacing, where the relation was the reverse.

35. While at the close spacing the boy with a younger sister was judged more quarrelsome, if anything, than the boy with a brother his junior, the boy with an older sister was assessed less quarrelsome than the boy with a brother his senior.

36. First-born girls were appraised more cruel than second-borns when the sibs differed by less than two years in age, whereas among boys the ordinal-position group's relationship, though insignificant, was the reverse.

Sex-Group Differences[6]

37. The variable, child's sex, was involved the most frequently in interactions with our other independent variables and about equally frequently with each of the three. More of the traits studied were related to child's sex in some way than was the case with any of the other variables.

38. Only in uncooperativeness with peers and tendency to tease was there any simple sex difference to be noted, boys in these traits being rated higher than girls. The finding relative to teasing agrees with that of Berne (3).

39. Girls received a higher mean rating in jealousy than did boys. [This agrees with the findings of Ross (15), Sewall (19) and Foster (7).] The most consistent differences are to be noted when first-born girls with a brother are

[6] See also previous sections, Items 4, 8, 9, 11, 13, 17, 18, 19, 20, 21, 22, 25, 32.

compared with first-born boys with a brother or when children who are in opposite-sex sib pairs are compared. Among second-borns, sex difference in jealousy tended to widen with spacing, being insignificant at the close spacing and large at the widest.

40. Girls, on the average, were scored consistently as more friendly, gregarious, popular, better leaders, and less reactive to defeat than boys only under the condition in which the sib differed in age by under two years.

41. In the case of boys and the traits named in 40, the assessment means tended to increase with spacing, while no similar relationship to spacing was apparent in the case of girls.

42. Boys were gauged generally more overtly hostile than girls, but first-born girls with a brother at the close spacing received a higher mean rating in quarrelsomeness, criticalness, insistence on rights, jealousy, and competitiveness than first-born boys with a brother, while at the same time tending to score higher in all the socially "positive" traits.

43. The assessment in revengefulness, uncooperativeness, selfishness, tendency to tease, cruelty, exhibitionism, and quarrelsomeness of second-born boys with a sister was higher than that for second-born girls with a sister, only at the closest and widest spacings.

44. Boys were judged, on the average, as more revengeful than girls when the sib spacing was close; but when the sib-age disparity was two to four years, a sex difference obtained only in the case of first-borns. At the widest spacing there were no consistent sex differences in revengefulness apparent.

TABLE 19

ANALYSIS OF THE VARIANCE FOR VARIOUS TRAITS

Source of Variance	*df*	Trait					
		Tendency to Tease			Exhibitionism		
		Sum of Squares	Estimate of Variance	*F*	Sum of Squares	Estimate of Variance	*F*
Total	383	323.6876			343.6622		
Between groups	23	32.9670	1.4333		29.6528	1.2893	
Within groups	360	290.7206	.8076		314.0094	.8722	
Between replications	15	20.5192	1.3679		14.1061	.9404	
Residual	345	270.2014	.7832		299.9033	.8693	
Between variables							
Between sex groups	1	9.8528	9.8528	12.6	6.2961	6.2961	7.2
Between sibling's-sex groups	1	1.1019	1.1019		.9411	.9411	
Between ordinal-position groups	1	1.6682	1.6682		.6460	.6460	
Between spacing groups	2	9.9996	4.9998	6.4	.9242	.4621	
First-order interactions							
Subject's sex—sibling's sex	1	1.2004	1.2004		3.5593	3.5593	4.1
Subject's sex—ordinal position	1	.0440	.0440		.3261	.3261	
Subject's sex—spacing	2	.8389	.4194		.9653	.4826	
Sibling's sex—ordinal position	1	.0622	.0622		.3882	.3882	
Sibling's sex—spacing	2	1.2097	.6048		.2205	.1102	
Ordinal position—spacing	2	.8657	.4328		.1044	.0522	
Second-order interactions							
Subject's sex—sibling's sex—ordinal position	1	.1773	.1773		2.2956	2.2956	2.6
Subject's sex—sibling's sex—spacing	2	.5484	.2742		3.1550	1.5775	
Subject's sex—ordinal position—spacing	2	4.3909	2.1954		2.4463	1.2232	
Sibling's sex—ordinal position—spacing	2	.6785	.3392		1.6095	.8048	
Third-order interaction							
Subject's sex—sibling's sex—ordinal position—spacing	2	.3285	.1642		5.7752	2.9876	3.3

TABLE 20

ANALYSIS OF THE VARIANCE FOR VARIOUS TRAITS

Source of Variance	*df*	Trait					
		Jealousy			Uncooperativeness with Group		
		Sum of Squares	Estimate of Variance	*F*	Sum of Squares	Estimate of Variance	*F*
Total	383	314.5296			339.1065		
Between groups	23	27.4597	1.1939		19.7481	.8586	
Within groups	360	287.0699	.7974		319.3584	.8871	
Between replications	15	19.0831	1.2722		10.5938	.7062	
Residual	345	267.9868	.7768		308.7646	.8950	
Between variables							
Between sex groups	1	7.6671	7.6671	9.9	3.6797	3.6797	4.1
Between sibling's-sex groups	1	.0119	.0119		1.9281	1.9281	
Between ordinal-position groups	1	1.2060	1.2060		.3046	.3046	
Between spacing groups	2	.1147	.0574		2.9753	1.4877	
First-order interactions							
Subject's sex—sibling's sex	1	.6468	.6468		2.1108	2.1108	2.4
Subject's sex—ordinal position	1	.0699	.0699		.9471	.9471	
Subject's sex—spacing	2	2.4071	1.2036		1.3622	.6811	
Sibling's sex—ordinal position	1	1.0859	1.0859		.6575	.6575	
Sibling's sex—spacing	2	1.0444	.5222		.1518	.0759	
Ordinal position—spacing	2	1.5391	.7696		1.9604	.9802	
Second-order interactions							
Subject's sex—sibling's sex—ordinal position	1	4.7259	4.7259	6.1	.3462	.3462	
Subject's sex—sibling's sex—spacing	2	.5165	.2582		.9037	.4514	
Subject's sex—ordinal position—spacing	2	4.8882	2.4441	3.1	1.4735	.7368	
Sibling's sex—ordinal position—spacing	2	1.3685	.6842		.7939	.3970	
Third-order interaction							
Subject's sex—sibling's sex—ordinal position—spacing	2	.1677	.0838		.0633	.0316	

45. Boys were given higher ratings than girls in cruelty at the middle spacing among first-borns and at the close and wide spacings among second-borns.

46. At the under-two and over-four-year spacings M1M's received a lower evaluation in quarrelsomeness and insistence on rights than F1M's, but M2M's were judged to exceed F2M's in these traits.

Obverse Groups

Since we shall have theories relative to the influence of sibs on each other, it will be of interest to look at the relation of the obverse groups. From them we can get some idea of what the sib of any given type of child is like. For example, we may infer, though the factor of age is not controlled, what the sister of the boy with an older sister is like by looking at the F1M group—i.e., the girls with a younger brother (see Tables 5-13).

47. It is noteworthy that the F1M group was rated highest, on the average, on all the "positive" social traits, while the M2F, the obverse group, was rated lowest, on the average (see Tables 5-7). A similar strong consistent negative relation was not observed in the other obversely related pairs, though a hint can be seen. If we rank the totals for the first- and second-borns and correlate the ranks of the obverse groups, the rho's in the case of most of

the "positive" social traits are negative, though of course the rho's based on four cases are insignificant. The rho's for the totals are —.80, —1.00, —.80, —.80, and —.20, respectively, for friendliness to peers, gregariousness, popularity, leadership, and kindness. The rho's for the "negative" traits are not consistently negative and practically all are small. The negative relations, however, may be merely a reflection of the influence of the sex variable. If the trends noted in the case of the "positive" traits can be trusted, it would not be too difficult to understand some of the items. If one sib were high in leadership, for instance, then the other might get into the habit of following. The negative sib relations in the case of friendliness and gregariousness are not so easy to conceptualize and may well be chiefly an expression of the sex variable. The relations hint possibly of the operation, in part, of a compensatory mechanism, though they could be understood, as in the case of leadership, in terms of dependence. We should in any case expect the sign of the correlations to vary with the traits. We shall comment in the discussion on a few other obverse group relationships. There are some interesting spacing-pattern similarities.

III. Discussion

All of the details of the relationships just enumerated we shall not attempt to account for, but a dozen or two demand comment. Let us say parenthetically that, although the hypotheses we shall

TABLE 21

Analysis of the Variance for Various Traits

Source of Variance	*df*	Trait					
		Insistence on Rights			Selfishness		
		Sum of Squares	Estimate of Variance	*F*	Sum of Squares	Estimate of Variance	*F*
Total	383	356.6076			333.4160		
Between groups	23	33.0254	1.4359		17.2167	.7486	
Within groups	360	323.5822	.8988		316.1993	.8783	
Between replications	15	16.1877	1.0792		12.9230	.8615	
Residual	345	307.3945	.8910		303.2763	.8791	
Between variables							
Between sex groups	1	1.6056	1.6056		.1971	.1971	
Between sibling's-sex groups	1	.3857	.3857		.4902	.4902	
Between ordinal-position groups	1	3.5401	3.5401	4.0	.0022	.0022	
Between spacing groups	2	1.3888	.6944		4.2976	2.1488	
First-order interactions							
Subject's sex—sibling's sex	1	.0825	.0825		1.5075	1.5075	
Subject's sex—ordinal position	1	.0001	.0001		.7794	.7794	
Subject's sex—spacing	2	5.8081	2.9040	3.2	1.8143	.0072	
Sibling's sex—ordinal position	1	.7912	.7912		.3851	.3851	
Sibling's sex—spacing	2	2.1520	1.0760		.3303	.1652	
Ordinal position—spacing	2	1.9410	.9705		.8335	.4168	
Second-order interactions							
Subject's sex—sibling's sex—ordinal position	1	9.2287	9.2287	10.4	.2350	.2350	
Subject's sex—sibling's sex—spacing	2	.6916	.3458		.2587	.1294	
Subject's sex—ordinal position—spacing	2	1.9031	.9515		2.9616	1.4808	
Sibling's sex—ordinal position—spacing	2	.5235	.2618		2.9218	1.4609	
Third-order interaction							
Subject's sex—sibling's sex—ordinal position—spacing	2	2.9234	1.4617		.2024	.1012	

TABLE 22

ANALYSIS OF THE VARIANCE FOR VARIOUS TRAITS

Source of Variance	*df*	Trait					
		Competitiveness			Behavior Reaction to Defeat in Competitive Activity		
		Sum of Squares	Estimate of Variance	*F*	Sum of Squares	Estimate of Variance	*F*
Total	383	322.2595			330.6890	.8869	
Between groups	23	30.5315	1.3275		26.3502	1.1457	
Within groups	360	291.7280	.8104		313.3388	.8704	
Between replications	15	22.9325	1.5288		18.1761	1.2117	
Residual	345	268.7955	.7791		295.1627	.8555	
Between variables							
Between sex groups	1	1.9267	1.9267		.6551	.6551	
Between sibling's-sex groups	1	5.8856	5.8856	7.6	.6419	.6419	
Between ordinal-position groups	1	3.1683	3.1683	4.1	1.3301	1.3301	
Between spacing groups	2	5.2107	2.6050	3.3	6.3562	3.1781	3.7
First-order interactions							
Subject's sex—sibling's sex	1	1.4235	1.4235		.2370	.2370	
Subject's sex—ordinal position	1	.5430	.5430		.8103	.8103	
Subject's sex—spacing	2	.6670	.3335		6.6127	3.3064	3.9
Sibling's sex—ordinal position	1	1.0987	1.0987		.0651	.0651	
Sibling's sex—spacing	2	1.0352	.5176		1.8181	.9091	
Ordinal position—spacing	2	.8367	.4184		5.4384	2.7192	3.2
Second-order interactions							
Subject's sex—sibling's sex—ordinal position	1	1.4627	1.4627		.0030	.0030	
Subject's sex—sibling's sex—spacing	2	1.7615	.8808		1.0135	.5068	
Subject's sex—ordinal position—spacing	2	1.6745	.8372		.7505	.3752	
Sibling's sex—ordinal position—spacing	2	3.7383	1.8692		.1638	.0819	
Third-order interaction							
Subject's sex—sibling's sex—ordinal position—spacing	2	.0991	.0496		.4545	.2272	

now offer have an *ad hoc* character, we shall bring to bear upon the issues some of the data from other areas of our research. The later data are not all presented here in detail because they will be, or have already been, published elsewhere (10, 11).

The ratings bearing on the "positive" social attitudes just described indicate there is a substantial degree of correlation among them. This positive relationship could, of course, be viewed as a halo effect, or a lack of discrimination on the part of the judges, though it seems reasonable to assume the traits would be correlated to some extent because of psychological mechanisms in the subject rather than merely in the judge. The traits were, in fact, chosen for study partly because of their putative overlap. We wanted the traits investigated to be rather specifically defined, yet we also hoped to cover such significant attitude *areas* as hostility, depend-

ence, and social interest. Hostility, for instance, expresses itself in many ways. We wondered, for instance, whether a child who is consistently overpowered by an older sib would develop the habit of resorting to the more indirect expressions of hostility. That a halo effect is not wholly responsible for the variable correlations is suggested by the fact that the detail of the relations of the various traits in our independent variables shows variations; and in some instances, both "positive" and "negative" traits are similarly related to the sibling variables rather than in opposite ways, as the halo effect would presumably dictate.

Sib spacing. The threefold fact that boys, with the exception of the ones with an older sister, tended to become more sociable and socially dynamic, i.e., to be better leaders and more friendly to peers, more popular, and more competitive, as the disparity in age between them and their sibs increased, while girls, in the main, did not show this trend, is interesting (Items 4, 7). We must remind the reader, however, that the higher ratings at the wider spacings in social interest and effectiveness with peers are often paralleled by higher ratings on a number of attitudes or behaviors reflecting hostility (Item 6). It is also worthy of note that it is the oversely related groups—F1F and F2F, and F1M and M2F—which do not reflect much in the way of spacing differences in the so-called "positive" traits (Item 2; Tables 5-7).

We suspect that a child's reaching out to peers may be a function in part of his involvement with, or the degree of satisfyingness of, his sib. When the age difference between sibs is small, we think they tend to be more involved with each other—not only in a rivalrous way but also in real companionship and dependence. Interests overlap greatly and companionship may even be sufficiently satisfying so that contact with other children is not sought. Relevant to this general issue is the fact that, when we asked the children in the interview we had with each, whether they thought they would be happier without the sib, fewer second-borns in the close spacing group, as compared with those in the wide spacing groups, wished to dispense with the sib or preferred others' company. When the children whose sibs differed from them little in age were asked why they felt as they did, their response tended to revolve around the idea that they would be lonely without the sib. First-borns generally *less* frequently than second-borns thought they would like to be rid of the sib. They seemed, however, more involved with or focused on their relation to their parents, whereas the second-borns appeared to focus on the sib relatively more than did the first-borns. In other words, our subjects seemed more concerned about those above them than with those below them in the age hierarchy. For instance, second-borns more frequently than first told us they preferred to play with their sibs than to play with other children. However, significantly more frequently than first-borns the former reported that they rarely played with their sibs. This is probably correct, for, if the sib is younger, he will be at home most of the day, whereas, if older, he will be at school much of the time. It is also congruent that our first-borns, especially at the spacings over two years, dealt in the CAT (Children's Apperception Test) stories (2) they told, consistently less frequently with sibling activities and sibling interaction themes than did second-

borns and the mention of sib cooperative activities decreased with spacing.

If a child and his sib differ in age by more than two years, then the former, we suspect, by virtue (among other things) of having a larger coterie of friends of his own, feels not quite so dependent on the latter or even on other family members, as would be the case were the sib age difference small. (Relevant to Items 4, 5, and 6.) Our subjects reported *decreasingly* with the widening of the age gap between them and their sibs that they played much with the latter and the latters' friends. It is significant for our hypothesis, too, that the percentage of children, male and female, who expressed in the interview an indifference as to sex of playmate diminished the more unlike in age the sibs were; and the percentage who indicated they preferred playmates of their own sex waxed. The most significant alteration in pattern occurred between the close and middle spacing (see Items 5, 7, 8, 9, and 10). It is striking that the preference frequency among boys with a slightly older sister for female playmates was somewhat higher than their preference for males (42 vs. 33 per cent), but when the sister was two to four years older, the corresponding per cents were 7 and 80. Having more companions of his own sex, age, and choosing (especially true of second-borns) is probably very important for the child, for then he is more evenly matched with his associates and has more opportunity to develop self-confidence in his social relations with the latter. If a second-born, the child whose sib differs much in age would be less a mere hanger-on than, for instance, one whose sib is two to four years older. It is significant in this connection that our data show leadership and competitiveness to be positively correlated with sib spacing (Item 5). The following facts are still further evidence of the lesser influence of the sib (especially in the case of the second-born) on the character of the playmates of the child as the sib age disparity becomes greater. Second-borns, except F2M's, as the gap in sib age widened, more frequently stated in the interview that their best friend was of their own sex and, with declining frequency named as playmates children who were older than they. Congruent with the hypotheses that, as the sib-age difference expands, the child tends to have more playmates of his own sex, age, and choosing (more marked among second-borns) and that this condition is favorable to the development of self-confidence as well as learning to be effective with his peers, is the observation that boys in the wider spacing groups, in contrast to those in the close, were judged by their teachers to be more self-confident, active, aggressive, ambitious, better sports, possessed of a wider range of interests, and to be less apprehensive socially (data not yet published).

The greater self-confidence, peer interest, and friendliness in first-born boys which occurred in the groups with the wider sib-age disparity (Items 4, 5, 6), we think may be due in part also to lesser stress from the displacement experience. The first-born boy whose sib arrives after he is four or more years old, for instance, has had his mother's attention uncontested for a considerable time. The displacement experience comes to him after he feels relatively more sure of his relationship with his mother, as well as after more mature social interests have developed. The necessary attention the mother gives the infant sib, for instance, which, if the spacing is wide, is what

the sib would be at the time of our contact with the children, may also seem more reasonable and less discriminating to a child of five or six than to a child of two. It is interesting that in the CAT stories of our first-borns the parent-favoritism theme decreased the greater the difference in age between child and sib. (The incidence of these themes was too low for the difference to be significant, however.) As has been said, the more expansive social adjustment of the children whose sibs differ much from them in age may be due in part to the greater association of the child with peers of his own age, sex, and choosing. It is worthy of note in this connection that in the CAT stories of the M2M's, for instance, there were fewer mentions of sibling activities by the children whose sibs differed from them most in age, also more cases in which no sib was even mentioned in the stories. There were fewer deception themes, too, and fewer mentions of moral issues—of right and wrong.

Still other forces may be at work to bring about a correlation of sib spacing interval and favorable attitudes toward peers on the part of boys with an older brother (Items 4, 7, 27). Since our subjects came only from two-child families, the second child then retained his position of youngest. The older the sib relatively, the more the second child—or at least the boy—is likely to be indulged (see 18). He will decreasingly be expected to fight out his difficulties with the older sib and others, and will have more protection; he will have more associates at his own level; and he will have relatively more of his mother's attention uncontested, because his sib is off at school much of the time. His mother will probably be more relaxed. All of these factors should reduce the child's dependency drive [i.e., if frustration intensifies drive, as Whiting believes (22)] and make him at the wide spacing relatively more outgoing and friendly. It is also very significant, we think, that the group type of the older brother (see M1M) was rated higher in friendliness, gregariousness (Tables 5, 14), popularity, and leadership (Tables 6, 15) when the spacing was wide then when close (Item 4). This likely trend, then, in the older sib we should expect to be paralleled by less threat to the younger and, hence, by correspondingly more effective social attitudes on the part of the latter. Since the sibs' interests overlap less when the spacing is wide, the older child can afford to be more protective of, and less competitive with, the younger.

If, on the other hand, the boy's sib is an older sister, instead of an older brother, a somewhat different weight of forces may obtain (see Items 2, 8, 12, 27). With her and her friends the boy will be encouraged to associate little, when the spacing is wide. Forty-seven per cent of the M2F [49-72]'s, for instance, reported in the interview we had that they *rarely* play with the sib, whereas 13 per cent of the M2M [49-72]'s gave this estimate. Also with a high frequency the M2F [49-72]'s confessed they were badly treated by the sib's friends. We believe, in addition, that the older sister is likely to badger and dominate her younger brother because she is very jealous (see F1M), thus causing the mechanisms making for retreat and dependency in the latter to be emphasized (1). M2F [49-72]'s, as compared with M2M [49-72]'s, the reader should note, were rated less friendly to peers, gregarious, popular, kind, competitive, cooperative, insistent on rights, poorer leaders, more selfish, and more inclined to tease (Item

27). (See Tables 5, 6, 7, 10, 11, 12, 13.) The former also used more hostility themes in their CAT stories than the latter.

The sex identification and intersib conflict we suspect may be greater the older the sister, within limits, and sufficiently strong to counterbalance other forces, such as we have enumerated above in the discussion concerning the boys, which should operate in the direction of reducing dependency and increasing friendliness to peers. The boy's chief models are females (the mother and sister); and the father, if Freudian theory is correct, may favor the sister.

A look at the probable characteristics of the older sister (see F1M's) shows she is likely to be relatively dominant and expansive, jealous, quarrelsome, exhibitionistic, insistent on her rights, critical, and competitive [see Tables 5, 6, 7, 8, 9, 10, 13; also see Items 18, 25, 31, 39, 42 (11)]. The qualities in the F1M's change little with spacing, a finding that may have some relation to the fact that the M2F groups at the various spacings differed little in attitude (Items 2, 4). If her brother were often left in her care, as well might be the case, the older sister could scarcely be expected to be a particularly wise and insightful guide. She would have a strong need to dominate and control. As evidence of stress between the sibs, we note that the M2F's [49-72]'s expressed a desire to change places with the sib, whereas, for instance, 87 per cent of the M2M [49-72]'s did (relevant to Item 27). The F1M's confessed with relatively high frequency that they thought they usually won in the quarrels with their brother. Forty-seven per cent of the M2F [49-72]'s thought the mother sided with the sib in the quarrels, whereas the corresponding per cent for the M2M [49-72]'s was 27.

We had expected that the older sister might be highly protective of her younger brother and, together with her parents, make the latter more adult centered and less skilled in interaction with children than would an older brother. The pattern of our ratings on the M2F's reactions to adults, as well as the interview data on sib interactions just mentioned, do not strongly support this hypothesis. For example, M2F [49-72]'s were not judged particularly friendly to adults (11), as one might have surmised. (This relatively low friendliness, of course, might be a reaction to domination, even though the individual is dependent and unprepared to take the buffets of his peers.) Nor do we find that a boy with a much older sister, who surely could be expected to be more maternal than a sister of nearly his age, has less positive peer attitudes than the boy with a slightly older sister. The M2F's, as was stated earlier, did not increase in sociability with peers as sib spacing increased, as was the case with the M2M's (Item 2).

The influence of a big sister taskmaster may be reflected in the high frequency of mentions of right and wrong—of moral issues—in the CAT stories of the M2F's. This frequency was consistently higher than was the case in the stories of the M2M's— in fact higher than in the stories of any of the other groups of second-borns.

A problem is posed by the fact that, while most of our male groups (exception M2F's) tended to become more friendly to and dynamic in relation with their peers as the maturity difference between them and their sib waxed, the female groups, especially the first-born, did not show the trend (Tables 5, 6, 7 and Items 4, 41). We suspect that the girl may have a limen of reaction to sib effect that is

lower than the boy's. It may be less the character of the sib than the sheer fact of having a competitor for parent affection and attention that challenges. The girl is a conformist, jealous, and very anxious to please (21). Other ratings we have confirm this (11). Her character results, we think, in part because she identifies with her mother, the person who seems to her of most importance in the home and probably in her world (11). If this is the case, the sib competitor, but especially the one different in kind (sex), no matter what its age, is likely to cause her to feel challenged, to put her on her toes, to call forth a maximum response. The first-born girl, particularly the one with a brother, apparently defends her status jealously, as a king would defend his throne against a pretender, i.e., she is very active—more aggressive in fact than the usually more aggressive male—and this quality she shows, no matter what the spacing (see Items 13, 18, 25, 39, 42). We think she is as vigorous as she is because, in one sense, she has a better opinion of herself and feels more sure of her status than does the boy, this because of her identification with her mother. Stimulated and challenged she, among other things, reaches out to peers for attention and approval. Significant relative to the question of the greater peer orientation of the girl is the fact that girls in the interview reported having more playmates, especially when the sib was near in age.

As evidence for the young girl's tendency to have a better opinion of herself than the boy, we might mention Tuddenham's (21) finding. Working with young school-age children, this investigator noted that boys were inclined to rate girls higher on meritorious traits than they did boys and the girls did likewise. This state of affairs decreased with age. Also relevant to the issue is our observation that in the interview we had with our subjects it was the boy, particularly the first-born, who most frequently confessed he thought his mother favored the sib.

Apropos of the theory that boys, particularly those whose sib differs little in age, have less self-esteem and are more dependent than girls, let us mention several additional facts (relevant to Item 7). Our first-born male subjects at the closest spacing less frequently in the interview expressed a preference for male playmates than did the girl for female playmates and less often said they preferred to play with someone other than the sib than the girl did.

The second-born girl presents a somewhat different picture from the first-born, whose threat from the sib comes chiefly in the area of parent affection and approval. The girl with an older brother, as the sib-age difference widens, in contrast to the girl with a younger brother, seems to feel increasingly threatened *directly* along most lines (see Items 9, 11, 17, 31). Since the former has more opportunity to discover through the older brother that boys are given more freedom than girls and have a favored status culturally, and since the skill and knowledge difference between her and her sib is clearly in her brother's favor, we think she may have more sex identification and personal status conflict, as spacing increases—probably more than the girl with a younger brother. The girls with a much older brother were judged by their teachers as relatively tomboyish, for instance. Also at the middle spacing she expressed with the same group frequency as the F2F's (53 per cent) a desire to change places with her sib, although in her case, in contrast to the F2F's, the exchange of roles would involve a change

in sex. It is significant, too, and probably reflective of her concern over her sib and herself in relation to him that F2M's CAT stories contained more sibling themes and mentions than those of any other group and the frequency of the sibling themes increased as the sib age difference widened (relevant to Items 9, 11, 15). In addition F2M mentioned with a higher frequency in her stories than did any of the second-borns, differences between persons—differences either with or without advantage to the person to whom they were attributed. This we think suggests a comparative set. F2M's bid more for adult attention at the wide spacing than close but also were judged less friendly to adults and less obedient (11). Still more significantly, our data reveal that the second-born girls with a brother increasingly as the sib age gap expanded, were thought to be less cheerful, more nervous, less responsible, more inclined to dawdle, more indirect in responses to fear and frustration, slower to recover from emotional upset, more vacillating, more likely to give alibis, and more apprehensive (data on preceding items not yet published). These seem to us to be signs that at the wider spacings stress was greater for the girl, or the response to it more depressive. The significant change seems to occur between the close and the two-to-four-year spacing, at which latter level the sib type (M1F) ratings also indicated for the sib the most change and this in the direction of greater aggressiveness, jealousy, hostility (Tables 5, 6, 8, 9, 11), but also social expansiveness (see Items 6, 16).

F2F's show a trend somewhat similar to that in the case of the M2F's, but not so marked, and apparently reach their peak of tension at the middle spacing (compare Items 9 and 10). But, of course, there are no readily recognizable signs of sex identification stress. The differences between closest and the widest spacings tended in the main to be small and insignificant. It is at the two-to-four-year age difference, when F2F is often cast in the role of a hanger-on, is dominated by her sister and her sisters' friends and has few friends of her own, that F2F shows most stress. At the middle spacing, in comparison with the close, F2F was rated less self-confident, popular (Tables 6, 7), kind, cooperative (Table 11), cheerful, planful, original, ambitious, and more selfish, vacillating, apprehensive generally, and given to teasing (Table 10), dawdling, and indirect responses to frustration (most data bearing on the items listed are not yet published).

It is interesting, when the two groups of second-born girls are compared, that those with a brother less than four years older tended to show the socially "positive" traits and competition to a higher degree than did the girls with an older sister (Items 15, 24 and Tables 5, 6, 7). This suggests that sex rivalry may be stimulating. At any rate, because of the sex distance factor (9), the F2M's at the middle spacing, we believe, have more friends of their own choosing than the F2F's—a situation that may also account for the greater effectiveness of the F2M's with their peer group. The latter will actually have less contact with the brother and his friends, because the breach between the sexes is greatest at ten to eleven years, than F2F will have with her older sister and the latter's friends.

At the middle spacing, when F2M is less of a hanger-on than F2F, the former can also be expected to be less hostile. Consistent with this extent-of-contact theory, we offer several other observations. At the widest spacing, for instance, when both groups of girls would have

about equal amounts of sib contact, the sib age difference being sufficiently great to reduce the effect of sib's sex on the degree of association, the attitudes of our two groups of second-born girls were remarkably similar. Also girls with a brother their senior, with whom they probably associate relatively less than do first-born girls with their preschool brothers who would be at home most of the day, did not show hostile and competitive traits to so marked a degree as did the latter (Tables 8, 13). (See Item 31.) Of course it is not unlikely the second-born girl with a brother is relatively low in hostility, compared with the first-born girl with a brother, because the latter has her status as "first" to defend and has suffered the displacement experience. The generally higher rating of the F1M group in jealousy (Table 11), exhibitionism (Table 10), insistence on rights (Table 12), and sensitiveness supports this view (see Item 31).

Let us summarize here the forces which we think play on second-borns as sib spacing increases. The reader may wish to try to estimate their relative weights, for they do not all pull in the same direction.

I. Second-born boy with a brother:

a. This group doubtless has less sex identification conflict than M2F, and we would expect no great change with spacing in degree of conflict. If anything, a decrease might occur.

b. The mother's indulgence probably increases with spacing. The child in this group remains the youngest.

c. Increasingly with spacing the child's companions are of his age and choosing. His playmates are probably male increasingly, but possibly a peak is reached at the middle spacing. Only at widest spacing are many playmates his own.

d. The sib type of this group (M1M) is rated higher in social attitudes as the sib-age difference widens.

e. As the sib-age disparity expands, the child is outclassed increasingly in skill and wisdom by his sib.

f. The child gets increasingly more of his mother's attention uncontested the greater the sib-age difference, because the sib will be at school more of the time.

g. The mother is probably more relaxed the wider the sib spacing.

h. The child's identification with his sib is probably greatest at the close spacing (in the sense of feeling like the sib) but his desire to have the sib's assets and advantages may increase with spacing.

II. Second-born boy with a sister:

a. The sex identification conflict is doubtless strong in this group, since the mother and sib are opposite in sex to the child, and the conflict may increase with spacing at least up to the middle. The model the child has is strongly feminine, and it is not unlikely the father favors the sister.

b. e. f. g. are probably the same as in the case of I; but M2F may be more indulged, and his sib as well as mother may serve and protect him more. This may tend to unfit him for an effective role with his peers.

c. Increasingly with spacing the child's companions are of his age, sex, and choosing.

d. The sib type for this group (F1M) was rated very jealous and dominant. The sib type seemed to show few changes in attitude with spacing, except a low in responsiveness to adults at the middle spacing.

h. Probably a sharp reduction occurs with spacing in identification with, or *conscious* desire to be like, the sib.

III. Second-born girl with a brother:

a. The sex identification problem in the case of this group is great but probably not so great as in the case of II. The problem may increase with spacing. The mother probably favors the brother; the father, possibly the girl.

b. e. f. g. are probably as in I; but the child is not indulged so much as II.

c. Increasingly with spacing the child's companions are of his age and choosing. The child's playmates are probably female increasingly, but boys may be favored more than by F1M and F2F.

d. The sib type (M1F) was rated more sociable, less dependent, more dominant, aggressive, and hostile, as spacing increased. The peak of hostility seemed to occur at the middle spacing where F2M was also judged most quarrelsome.

h. The conscious desire to become the sib probably drops slowly.

IV. Second-born girl with a sister:

a. There is doubtless virtually no sex identification conflict in this group and little change, or possibly a slight decrease, with spacing.

b. e. f. g. are probably as in I; but we suspect the mother may favor the older sister.

c. Increasingly with spacing the child's companions are of her age and choosing, but the change is slow. F2F long remains a hanger-on in her older sister's play groups. Only at the widest spacing is F2F likely to have companions uniquely hers.

d. The attitudes of the sib type (F1F) are rated as changing little with spacing. The sib is likely to be distinctly jealous but less competitive than the sib in the case of III.

h. The childs' identification with the sib is very strong. The desire to have the sib's assets and advantages increases with spacing.

Since we are discussing in a general way some of the effects of difference in their ages upon the sibs, let us look more closely at the very great difference between first-born boys at the under-two and at the two-to-four-year spacing (see Item 6). The boy with a sister two to four years younger, as compared with one with a sister less than two years younger, was rated higher not only in friendliness, gregariousness, and social effectiveness generally, but also in hostility, jealousy, and competitiveness; while the boy with a brother his junior to the former degree, as compared with the latter, was rated higher chiefly in the hostile attitudes and techniques (see Items 6 and 24). The fact that the M1F [25-48]'s, compared with the M1F [7-24]'s, were both more friendly to peers and more jealous, quarrelsome, competitive, exhibitionistic, as well as more given to teasing, stimulates the conjecture that the socially "positive" qualities of M1F [25-48]'s are, in part, a defense. Whereas, for instance, 13 per cent of the M1M [25-48]'s expressed a desire to change places with the sib and 7 per cent of the M1F [7-24]'s did, 40 per cent of the M1F [25-48]'s confessed this inclination. This is impressive, since the exchange of roles in the M1F group would have to occur across sex lines, as well as represent age down-grading. However, we are impressed also with the drive or dominance of the M1F [25-48]'s. It should be remembered that with the sib much younger, the older child chooses their common playmates in large measure. These latter are more likely to be of the older child's age and sex than not, a fact which should bolster his self-confidence and may lie back of his active fight for attention and

appreciation, for fight he must. The sib who is two to four years younger than a five- or six-year-old is at that adorable one-to-four-year age when it will probably be showered with attention and affection by adults, both in and out of the family. It is noteworthy that in all of the groups of first-borns the frequency of the wish to change places with the younger sib increased with spacing (data not yet published). The sib of one to four years gets about, in contrast to a baby who stays put, and may be very trying to the older child, interfering in a clumsy way with the latter's activities and constructs and offering not too much in the way of a compensating companionship. An infant sib would be less directly thwarting. It is interesting to note at this point that Stendler (20), with perhaps more emphasis on trauma and the "critical age" notion than we have presented, offers evidence which suggests that the arrival of a sib when the child is nine months to three years may be traumatic to the older one, interfering with the latter's dependency development. Sewall (19) also mentions the spacing of eighteen to forty-two months as that at which jealousy tends to be highest.

If, in addition, the sib of one to four years in age is a girl, she may seriously challenge M1F [25-48]'s sex identification, his basic self-evaluation. It is relevant to our hunch that a notable sex identification conflict occurs in this group, that, whereas 13 per cent of M1M [25-48]'s expressed indifference as to the sex of playmates, 53 per cent of the M1F [25-48]'s did and the corresponding percentages of preference for *male* playmates were 87 and 33, respectively. The boy, we suspect, feeling somewhat neglected and inferior, may try to lure attention to himself by a variety of devices, such as exhibitionism and teasing, and compensate for the devotion the sib receives by trying to build strong peer associations (Item 6).

Both M1M [25-48]'s and M1F [25-48]'s, let us repeat, were more hostile [quarrelsome, revengeful, cruel, given to teasing, and insistent on their rights (Tables 8, 12)] than corresponding groups at the close spacing; but the M1F [25-48]'s were, in addition, rated more friendly to peers, gregarious, popular, and higher in leadership (Tables 5, 6) as well as more jealous (Table 11), exhibitionistic (Table 10), and competitive (Table 13). (See also Items 6, 23, 24, 25, 26.) It seems clear that the middle spacing is a stressful one; but the M1F [25-48]'s apparently are dealing with their jealousy, perhaps partly because the sib could be excluded from their play groups, by an increase in sociability—by turning to peers—while M1M [25-48]'s are not doing this so much. From the peer groups which the M1F [25-48]'s join, since the sister is more than two years younger, she is likely to be excluded in large measure because of the cultural-biological phenomenon called sex distance (9). The boy's playmates will tend to be boys and they will help to reinforce his sex identification. If, in contrast, the boy's sib is a younger brother, he probably will not be barred from the older child's playmate groups, so peer associations can serve less as a compensation to the latter for the favors shown the sib by the family and others. The morale of the M1M [25-48]'s, in other words, probably will not be bolstered substantially by a coterie of unshared friends with whom he must stand on his own feet, and his defenses may be, hence, chiefly the more hostile ones.

Apropos of the above hunch, let us

call attention to the fact that M1M's and M1F's at the widest spacing do not differ significantly (see Item 24). When the spacing is wide enough—and over four years is adequate—then the great difference in maturity will bar the younger child from the older's play groups in large measure, regardless of his sex. Hence M1M's would have no advantage over M1F's and both groups could be expected to be, as they actually were, about equally friendly and gregarious. Also it is probably relevant that the sex of an *infant* as an item in the general social situation is less conspicuous than would be the case with a somewhat older sib.

It is interesting, in the light of our suspicion relative to the role of the sex identification conflict, that when the sibs differed by less than two years in age, males with a male sib who was younger were rated more friendly to children and adults than those with a female sib who was younger (Item 26). The male sib will not, because of his sex at least, challenge the first-born boy's status. He will be close enough in age, too, so that he will probably be a reasonably good companion, and identify some with his sibling. The two may even league against adults. These conditions should raise the self-esteem of boys with a younger brother near in age over that of boys with a closely spaced younger sister or that of boys with a brother two to four years younger. This constellation of forces should raise the independence of M1M [7-24], his self-confidence, his friendliness toward and interest in peers over that of M1F [7-24] (Item 26 and Table 5).

Below is a summary similar to the one given for second-borns of relevant influences which we think are playing upon first-borns.

V. First-born boy with a brother:

a. The child possibly has some sex identification conflict but, in the main, this is not very great. His conflict may be greater than M2M's because the latter has a male sib from the first to reinforce his identification. Possibly the closer the sib is in age the less conflict M1M has.

b. The longer the child remains the only child in the family probably the more indulged and possibly the more anxiously reared he will be.

c. The child is more adult-oriented the wider the spacing. He is likely to be more adult-oriented than M2M, especially at the closer spacings.

d. The child is more stimulated and instructed by adults the wider the spacing.

e. The boy's identification with his sib decreases slowly with spacing. The identification is not so great as M2M's, whose sib is older than he and commands more respect.

f. As the sib spacing widens, the child is ever abler than his sib.

g. As the sib-age difference expands, the child has less association with his sib, and the overlap in playmate groups diminishes slowly. At the widest spacing, when the sib is an infant or near infant, there is virtually no sharing of playmates. M1M's playmates at all spacings are chiefly of his choosing, in contrast to M2M's.

h. At the middle spacing the child perceives the sib as relatively more favored because the parents must interfere much in the children's affairs, yet the treatment differential must be great. The child may be less able to weather the storms of the displacement experience if it occurs at the "critical" nine-months to three-year age. We have the hunch the child may cling more if the sib arrives

when he is one to two years old, because his defense repertoire is limited; and struggle more actively in defense of his rights and for attentions, if the sib's advent occurs when he is two to four years old. These attitudes we expect to transfer.

i. The child is probably given more responsibility than the second-born, M_2M, at least when the spacing is close but is not given so much responsibility as VII or VIII because of cultural sex typing.

j. The sib type (M_2M), according to our data, exhibits a better adjustment as spacing expands.

VI. First-born boy with a sister:

a. Much sex identification conflict tends to occur in this group. Possibly the peak is reached at the middle spacing where the treatment differential may seem most conspicuous. The sex of an infant sib, for instance, is not very conspicuous and may not be perceived as responsible for differences in treatment. The mother may favor the boy; the father, the sister.

b. c. d. e. f. g. h. i. are probably much as in V. However, the identification with the sib and also the amount of association with the sib and her friends doubtless decreases more rapidly with spacing than is the case in V. Also the child is probably given more responsibility than is M_2F but at the close spacing at least not much more than his younger sister.

j. The sib type (F_2M), according to our findings, is actively defensive when the spacing is under four years but seems relatively more passive and dependent at the widest spacing.

VII. First-born girl with a brother:

a. Much sex identification conflict seems to be experienced by this group; but it *may* be less than that in VI because of the child's identification with the mother. However, increasing relative interest in the father may intensify the girl's conflict. Also her displacement experience is likely to involve a more radical change in status for the girl than for the boy in V or VI, as the younger brother tends, we think, to be much indulged by the mother. This state of affairs should put F_1M much on the defensive at all spacings.

b. c. d. f. seem much the same as in V. However, the girl, because of her identification with her mother and teacher, is more adult-oriented than is the boy.

e. Identification with the sib probably decreases more rapidly with spacing than in VI or VIII.

g. As the sib-age difference expands, the child has less association with her sib, and the overlap in playmate groups diminishes but probably is greater than in VI.

h. Since the advent of the sib makes for a greater change in status for her than for V or VI, for instance, her defensiveness may vary less with spacing and be very active.

i. The child is given more responsibility than F_2M and much more responsibility relative to the sib than V or VI. Her responsibility for the care of the sib is likely to increase with spacing. Since, as a girl, she is much of a conformist, she may make much effort to keep her sib on the straight and narrow path and be much upset if he resists. Hence sib relations may not be too good.

j. The sib type (M_2F) tends to be relatively dependent and hostile and changes little with spacing.

VIII. First-born girl with a sister:

a. The sex identification conflict in

this group is probably inconsiderable. It may be slightly greater the wider the spacing.

b. c. d. f. are as in VII.

e. Identification with the sib tends to remain high but lessens slowly with spacing.

g. As the sib-age difference expands, the child has less association with her sib, but the overlap in playmate groups remains high until at least the widest spacing.

h. The advent of the sib will not change her status as much as it does that of VII and the sib treatment differential will remain less because the sibs are of the same sex. It is not unlikely F_1F will remain her mother's favorite.

i. The child is given more responsibility than F_2F and may have less difficulty keeping her sib in line than VII does. The middle spacing seems most difficult.

j. The sib type (F_2F) seems to change little with spacing, though the signs of stress pile up at the two-to-four-year spacing.

Before turning attention to variables other than spacing, we wish to comment briefly on the several traits related rather simply to spacing—i.e., leadership (Table 6), competitiveness (Table 13), and teasing (Table 10). (See Item 5.) That leadership is positively correlated with the degree of difference in age on the part of the sibs may reflect conditions already mentioned—namely, that the child whose brother or sister differs from him much in age tends to be thrown more with children of his own age, sex, and choosing and hence have more motivation and opportunities to lead. Also if the sib is junior, the older child may be given relatively more responsibility the younger the former is; and because of his obvious superiority to his sib in skill and knowledge, get practice in leading.

That teasing should increase as sib age disparity widens, at least from the under-two-year to the two-to-four-year spacing level (Item 5), seems to us to be expected, it being a favorite method of attack to use when more direct forms are forbidden or unsafe. The child is likely to be forbidden to attack a younger sib directly and this to a greater degree the younger the sib is. Hence teasing should be on the up-grade, except that an infant would be a poor target for teasing, and would also be protected against even that "playful" form of attack. This latter we think lies back of the fact teasing in first-borns dropped to some extent at the widest spacing, when the sib in the population we studied would be virtually an infant and might not even understand it was being attacked. If the sib, on the other hand, is older than the child, it will be unsafe to attack him directly. Since the second-born child is outclassed physically by his senior sib, the former will be inclined to use those "safer" kinds of attack of which teasing is one. Presumably because boys are more aggressive, they use teasing more than girls (Item 38) and also against girls, with whom they are taught it is unmanly to fight directly.

Competitiveness seemed to increase some as the age difference between the sibs expanded, at least up to four years (Table 13). This surprised us at first, as we had expected the trait to be greatest at the closest spacing where overlapping interests and frequency of association are greatest. We suspect now that status and affectional concerns, rather than, for instance, concern over possessions or skill, are the chief sources for the motivation of competitiveness. Probably the

longer the first-born has held the family stage uncontested the greater will be his need, if challenged, to prove himself best. An infant sib of not very long standing, however, probably will not challenge much. The sib at the middle spacing is more threatening.

Among second-borns it was those with male sibs that tended to increase in competitiveness with spacing. The apparent great increase in hostility, expansiveness, and competitiveness of these very male sibs (see sib type M1M and M1F and Item 6) probably gives us the answer to the increase in competitiveness in the second-borns, whose sibs the latter are.

Sib's sex. That our first-borns tended to be more rivalrous and hostile if the sib was opposite in sex (Items 24, 25), whereas the reverse, if anything, obtained for the second-borns, presents a problem. This suggests to us the sex identification struggle and degree of sib association are two significant determinants, the former variable being relatively more significant for first-borns; the latter, for second-borns (see Items 31, 33). If the sib is himself in the Oedipal stage or not well established in his sex identification, then he activates insecurity in the five- and six-year-olds, who have probably not yet entirely resolved their own sex identification problem. Also, if one of the sibs is a preschooler and the other has just entered school, then the two will have been thrown in each other's company much and have played with the same playmates, unless one of the two is an infant. There may be much sex rivalry in mixed groups of playmates. If, however, the sib is older, and well established in his identification, then sib rivalry will probably revolve relatively more around other issues. If the sib is older, sex distance will be great. This means that the younger child will have considerably more contact with his older sib and the latter's associates if the latter is of his own sex rather than opposite in sex. Hence we should expect reflections of this in relatively more rivalrous attitudes toward sib and peers among members of same-sex pairs (see Item 33).

The rivalry of girls with a younger brother, as compared with girls with a younger sister, another relationship to be observed in our data (Items 23, 25), is conspicuous. The former girl because of sex rivalry, we think, is highly competitive and is apparently sufficiently self-assured (she is rated high in self-confidence by her teachers, for instance) to express her hostility directly. These girls with a younger brother were at the closer spacings, as has been already described, even more quarrelsome than boys with a younger brother (Table 8, Item 42). The former were judged better leaders (Table 6), more quarrelsome (Table 8), competitive (Table 13), exhibitionistic (Table 10), jealous (Table 11), insistent on rights (Table 12), and critical (Table 9) than girls with a sister. That the boy, who has this self-assured, very jealous, dominant older sister (see obverse group, F1M) whose attitudes seem little affected by the age of her sib, should also be little influenced by spacing may be significant. The boy is not very expansive socially but instead rather hostile. He, doubtless, feels inferior and dominated, as has already been explained, and withdraws. He may, however, be compensated for his, in one sense, increasingly inferior position by enhancement in the babying and protection he receives. While he ranks consistently lowest of all of our groups in friendliness to children, it is significant that at the middle spacing at least he ranked high-

est in friendliness to adults (11).

One other of the sib's-sex relations let us single out for comment, though it has already been indirectly referred to. In the main, children with a brother (exception first-born boys) tended to be rated higher in competitiveness and leadership in comparison with those with a sister (Item 23).

Since the boy was not judged a better leader or more competitive generally than the girl, sib example can scarcely be the explanation. Sex rivalry, we think, accounts chiefly for the difference between the FM and FF groups. However, that M2M's exceeded M2F's may have a different explanation, as was suggested earlier, though the mechanism may be related in part to the sex identification conflict also. The boy with an older sister we believe is overwhelmed by his double disadvantage of being younger and not of his mother's and sib's sex; and, depressed by this and the excessive protection he receives, is dependent rather than stimulated. The boy with an older brother, on the other hand, who has his sex identification reinforced by the sib and the latter's friends, can, at least at the wider spacings, be expected to be more dynamic and buoyant (Item 7).

Sex. Since the sex variable has been dealt with fairly adequately in our discussion of its interaction with other variables, comment here can be rather brief. Sex differences do not seem simply related to the variables studied—a fact which suggests that the biological sex vector can be countered in influence by cultural or sex-role influences. Only in uncooperativeness (Tables 11, 20) and tendency to tease (Tables 10, 19) did boys with any consistency exceed girls in the traits studied (Item 38). Even here at the close spacing there were no significant sex differences, and among second-borns, sex differences were significant only between those children with a sister. Among first-borns, boys were judged more uncooperative than girls when the sibs came from opposite-sex pairs. Neither among first- nor second-borns were any significantly large sex differences shown if the children belonged to sib pairs of the same sex. When children from opposite-sex pairs are compared, boys tended to exceed girls in uncooperativeness. A similar pattern is to be observed in the case of teasing (Tables 10, 19), though when the sib-sex variable is kept constant, boys rather uniformly averaged higher than girls (Item 38).

Girls were more self-confident, more friendly, better sports, possessed of more initiative, and were socially more effective than boys only at the close spacing (Tables 5, 6, 13; Item 40). At this age-difference interval the girl's impact with the sib and his friends is most direct. Our hunches relative to the meaning of the general observation given above we have described elsewhere in terms of the greater likely indulgence of the boy by his mother and his consequent greater dependence; the girl's greater self-assurance because of identification with her mother; and her tendency to deal with struggle more indirectly—a condition which might cause her to reach out to peers, if the sib is not too satisfying, and thus develop more social experience. However, this does not mean the first-born girl is not competitive. She is sufficiently challenged and stimulated by rivalry across sex lines with her younger brother; she was rated for instance more quarrelsome (Table 8), competitive, and critical (Tables 13, 9) than the parallel

boy group (Item 42). That it is sex rivalry that is operating is suggested by the fact that the girl with a younger brother is more competitive (Table 13), quarrelsome (Table 8), jealous (Table 11), exhibitionistic (Table 10), insistent on rights (Table 12), and critical (Table 9) than one with a younger sister (Item 42). The former's involvement with her brother is suggested by the greater frequency of sibling mentions in her CAT stories.

Ordinal position. We were impressed with the fact that few of our dependent variables were related in any simple way to ordinal position. This finding suggests that the sweeping generalizations found in the literature about the effect of birth-order may need some tempering.

In the main, our first-borns at the wider spacings were judged, in comparison with second-borns, more competitive (Item 30), insistent on their rights and curious. In their CAT stories the former used more hostility and favoritism themes (data not yet published). These may be a reflection of the first-born's need to defend his status as "first," which in turn may hark back in part to the displacement experience. In keeping with this hunch is the observation that, at least at the stressful middle spacing, the first-born is the more upset by defeat (Item 32). It is interesting, however, that at the close spacing our second-borns when the sib was of the same sex were more insistent on their rights than the parallel group of first-borns, while the reverse obtained for those from opposite-sex pairs (Item 33). And boys with an older brother were rated more quarrelsome and hostile generally than boys with a slightly younger brother (Item 34), whereas for girls with a brother the opposite seemed to be the trend (Items 31 and 42). Having a competitor from the very first and doubtless also being encouraged to defend himself if the sib is not much older, probably makes M2M a better fighter than M1M. The girl with an older brother, overpowered by him and probably not encouraged particularly to defend herself directly may resort more to indirections than F1M and hence appear less hostile. At the wider spacings M2M, like F2M at the somewhat closer, we would expect to be convinced of the hazards of direct attack and hence to be more cautious and indirect. Our data show, for instance, that, in contrast to M2M (7-24), M2M (49-72) tended to bid for more help and attention from adults (11).

It seems to us particularly provoking of thought that ordinal-position group differences were few at the close spacing and when the sibs were of the same sex, but frequent when the sibs were opposite in sex. A similar trend appears in the frequency of sibling mentions in the CAT (2) stories. We have, of course, already looked at the reverse side of this picture in commenting that heightened social interest, friendliness, insistence on rights, competitiveness, jealousy, exhibitionism, and quarrelsomeness seem to obtain among first-borns in opposite-sex sibling pairs more than among second-borns, whereas among the latter the reverse, if anything, seems more characteristic (Tables 8-13). The fact that there is a difference in favor of those from opposite-sex pairs among the former makes us suspect jealousy and unresolved sex identification problems are sparking the drive of the first-borns. This is no doubt reinforced by the knowledge on the part of these latter children they are the abler members of the sib pairs. We have thought it important, too, in this connec-

tion, that among second-borns, sibs of the same sex associate with each other more than do those of opposite sex; whereas among first-borns the two sexes tend to play much together, unless the sib is very young. Our interview material supports this surmise. The playmates are, to be sure, more of the older child's choosing, since the younger child, being usually under four years of age, is too young to get about much on its own and to contact playmates. The strong peer interests of first-borns we think may stem in part from the inability of the younger sib, unless near in age, to be much of a real companion. It is significant that in the interview we had with the children first-borns somewhat more frequently than second-borns expressed a dislike of playing alone but also with higher frequency said they preferred playing with someone other than the sib. The first-born apparently reaches out for stimulation, especially when the sib is much younger and can give him little real intellectual companionship.

The sex identification of the first-born is likely to be reinforced by his playmates but his problem is probably still not completely resolved because of the amount of attention the sib gets from adults. Since, if the sib is younger, neither the child nor the sib has fully accepted its sex and sex-role implications, rivalry may be great if the sibs are opposite in sex. The first-born, it is our belief, gives a relatively dynamic, direct response to the situation because he is in the driver's seat. In other words, he is self-confident enough to be directly hostile. He may be more rivalrous than the second-born also because of his displacement experience and the feeling he has his status as "first" and ablest to defend. The M1F's, too, may be subject to a devastating sort of comparative criticism, especially if the sib is near in age. The sister may well be a more conforming sort of person (11)—little girls tend to be—and this may reflect more unfavorably on the boy than would be the case if the younger sib were a relatively less conforming male, for instance.

Congruent with the above hypothesis is the observation that M1F [7-24]'s were rated as less friendly to adults, less affectionate (11), less exhibitionistic (Table 10) and less inclined to seek adult attention than M2F [7-24]'s, while M1M [7-24]'s did not differ similarly from M2M [7-24]'s in these traits. When the situation with the sib is not quite so taxing for the M1F's, as is the case when the latter become clearly more able than the sib and can have play groups all their own, they may compensate for what inferiority feelings any comparative criticism and their sex status generate by effort to win peer approval and attention. M1F's after the closest spacing were judged more friendly to peers than M2F's (Item 31) and about as friendly to adults (11). That this is no sign of peace is suggested by the observation M1F [25-48]'s were gauged more quarrelsome, revengeful, competitive, insistent on their rights, given to teasing, cruel, and jealous than M2F [25-48]'s. F1M [25-48]'s were judged more insistent on rights, competitive, reactive to defeat than F2M [25-48]'s, while F1M [49-72]'s were rated more on the defensive—i.e., quarrelsome, exhibitionistic, attentive to adults, and demanding of help than F2M [49-72]'s. (See Tables 8-13; also Reference 11.)

Worthy of some comment is the greater hostility (quarrelsomeness, insistence on rights, selfishness) of M2M [7-24]'s than M1M [7-24]'s (Tables 8, 9,

12; also Item 34). The boy with a brother slightly his senior is doubtless subjected to much domination by the latter with whom he plays much. However, the M2M [7-24]'s are near enough to the M1M [7-24]'s in ability to hold their own if they make a strenuous effort. Since the former will not get the protection a much younger child would receive and will be encouraged by parents to defend themselves, their more directly combative habits will probably be those most reinforced. At the middle spacing then, when the M2M's will be given more protection against the older sib, it should be the M1M's who are most hostile and on the defensive.

That at the middle spacing the M2F's did *not* exceed F2F's in hostile attitudes [quarrelsomeness, cruelty, revengefulness, exhibitionism (Tables 8, 9, 10; Item 43)] we think may be due in part to a difference in degree of association between the sibs. At the close and wide spacing, when the differential in the degree of association between the members of mixed as opposed to same-sex pairs is small, the M2F's exceeded the F2F's; but at the middle spacing, when the members of the M2F pairs associate less than those of the F2F pairs, there is an influence which counters the hostility strength vector of the boys.

The patterns described above suggest again that having a sib opposite in sex tends to be stressful. The boy doubtless uses teasing and resistance to defend himself and his status. Since he will be deterred from attacking the girl directly more than the girl will be deterred from attacking him, we should expect to find what appears to be the case; namely it is when the sib is a sister that the sex differences in teasing are most conspicuous (Items 12, 43).

Girls generally had higher mean ratings in jealousy than did boys (Tables 11, 20), sex differences being largest at the widest spacing (Item 39). Girls with a younger brother tended to be rated highest in jealousy. Also in their CAT stories they showed a more comparative set. The general direction of the sex difference we noted is in line with that reported by others (e.g., see 7, 15, 19). The girl is more of a conformist, for whatever reason, than is the boy, more affectionate, and probably also the recipient of more affectionate expressions (11). She wants approval and when she sees others getting it, she is motivated to try for her share or, failing this, to justify to herself her apparent failure to capture it. The girl seems more involved with her family. In her CAT stories there were more mother, father, and sib mentions than in the boys' stories.

That the sex rivalry problem is a factor influencing her jealousy is suggested by the fact that among first-borns the sex differences in the trait are significant if children from mixed-sex sib pairs are compared but not if those from same-sex pairs are compared. This is not the case among second-borns, where, as we pointed out earlier, those of the same sex associate more and hence probably are more rivalrous. Because the girl is more of a conformist, a sib who differs from her in so basic a character as sex may cause her to challenge her worth more than a sib of the same sex. It is possible, though it seems unlikely, that the girl even in her preschool years has learned she is living in a society in which the male is favored.

Obverse groups. We had hoped when we began the study to concern ourselves with both members of each sib pair but this did not prove feasible. Hence we have

had to trust the picture in the obverse group to give us some idea of what the trend among the actual sibs of the children in any given subgroup would be. There is even a compensating feature in the obverse group technique in that the members of sib type groups are the same in age as the members of the comparative subject group. Since we believe the age variable an important determinant of the trait pattern to be observed among sibs from various constellations, let us warn the reader once again of the danger of generalizing from our findings to other age levels.

We have looked at the obverse groups in two ways—one, in terms of their relative ranking in total score. When we observe, for instance, that F1M is very jealous and M2F is low (Item 47) we suspect F1M may have a reason to be jealous, namely that M2F is babied and protected much. However, this negative relation may reflect merely the influence of a sex variable, quite apart from the sib influence. Such a variable may cause the difference between the sexes in opposite sex pairs. Hence we have looked at another set of relations for cues as to the role of direct sib influence—namely in the pattern of change with various variables—e.g. spacing. There is a suggestion—but of this we are not very sure—that if a subject type does not change in essential character with spacing the obverse group tends also not to change significantly. First-born girls, for instance, changed little in friendliness to peers with spacing. The same pattern obtained in the obverse second-born groups, F2F and M2F.

IV. Summarizing Comment

Since any adequate summary of the findings of the study would repeat what is given in Section II, the reader is referred there for a review. Because the detail of our data is complicated but, in the main, has made sense, we have been impressed with the dangers of broad generalizations concerning the effect of family constellation variables. Our most significant findings are probably to be located in the various interactions. We suspect, too, that the pattern of some of our findings is a function of the age group we studied, and wish to remind the reader once again of this possibility. We are inclined to point out as highlights in our material, evidence suggesting (*a*) that the two-to-four-year spacing may be a rather stressful one; (*b*) that having a sib opposite in sex may be very stimulating and security taxing, especially to first-borns; (*c*) that a boy with a much older sister tends to be somewhat withdrawn and dependent (though still distinctly hostile) in comparison with a boy with a much older brother; (*d*) that the social expansiveness of most male groups tends to be positively correlated with degree of disparity in age (within the limits we studied) of the child and his sib; (*e*) that differences associated with ordinal position are frequently contingent on sex of child and sex of sib; and (*f*) that the variable, sex of child, interacts extensively with the sibling variables investigated. Simple or "zero order" sex differences, for instance, were noted in our data extremely infrequently.

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